

TELEPHONE NUMBER:  
BANK 852.

Registered as a Newspaper.

TELEGRAPHIC ADDRESS  
"CHEMICUS LONDON."

**Established in  
ENGLAND, 1859.]**

Published Weekly at 42 CANNON STREET,  
LONDON, E.C.

**Established in  
[AUSTRALASIA, 1885]**

No. 1,532. VOL. LXXIV.

JUNE 5, 1909

{Subscription, 10s. per annum, including Diary.  
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# THE CHEMIST & DRUGGIST SUPPLEMENT.

OFFICE: 42 CANNON STREET, E.C.

SATURDAY, JUNE 5, 1909.

## PUBLISHER'S NOTICE TO ADVERTISERS.

Advertisers are desired to take note that the advertisements of Businesses for Disposal and Wanted, Situations Open and Required, Exchange Column, &c., belong to the **PREPAID CLASS**, and to ensure the due insertion of the announcements the remittances must accompany the instructions. A great amount of unnecessary correspondence is occasioned by the non-observance of this regulation, and the Publisher hopes that the advertisers will assist in the quick preparation and despatch of the Supplement by strictly observing this rule. Advertisements for the current issue cannot be received after 4 p.m. on Thursday in each week.

A Copy of this Supplement is inserted in every Number issued of "The Chemist and Druggist."

## Practical Help in difficulties is afforded by advertising in this Supplement.

IT PAYS TO PAY FOR ADVERTISING HEREIN.

## CHEMISTS' TRANSFERS.

Messrs. ORRIDGE & CO., 56 Ludgate Hill, E.C.

May be consulted at their Offices on matters of SALE, PURCHASE, and VALUATION.

- 1.—LONDON, WEST-END.—Old-established Business, Retail and Dispensing; position unique; returns average £1,275; net profit over £400; full investigation invited; price £1,050.
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- 3.—LONDON, E.C.—Retail and Dispensing Business; excellent position; attractive shop, fitted in mahogany and plate glass; net profit between £400 and £450 yearly; further details on application.
- 4.—LONDON, S.W.—Old-established Business; Retail and Prescribing; good opening for Dentist; returns under manager between £900 and £1,000 yearly; net profit 25 per cent.; full investigation invited; terms, simply the value of stock and fixtures.
- 5.—LONDON, N.W. (Suburban).—Good-class Retail and Dispensing Business; well situate in favourite residential locality; returns £1,500 per annum, which produce a net income of £360 (proof given); well-fitted shop (by Treble); roomy house; held on lease; price £1,000.
- 6.—BANKS OF THE UPPER THAMES.—Good middle-class Business; Retail and Dispensing; returns last year £700; scope for increase; attractive shop, double fronted; comfortable residence; held on lease; terms, £50 and valuation of stock and fixtures.
- 7.—CRYSTAL PALACE (near).—For immediate Disposal, modern Pharmacy; returns last year £900, formerly they were £3,000; excellent opportunity for an up-to-date Chemist; immediate sale necessary; valuation terms; illness sole cause of sale.
- 8.—SOUTH WALES (Health Resort).—Modern Pharmacy; capitally situate in the centre of town; returns about £2,500 per annum; gross profit 50 per cent. (proof given); attractive shop, double fronted; rent £65 yearly; further details on application.
- 9.—CORNWALL.—Old-established Business; all good-class Retail and Dispensing; held by vendor many years, now retiring; returns exceed £1,400 (proof given); further details on application; references will facilitate business.
- 10.—WESTERN COUNTY (Large Town).—Good profitable Retail Business, chiefly ready-money; returns £500; well-appointed shop and residence; held on lease; rent £35; price £400; ill-health cause of sale.
- 11.—NORTH OF ENGLAND.—Attractive Pharmacy; established many years; returns (present rate) £1,600; double-fronted shop; corner position; commodious house; private entrance; inspection invited; price £1,250.
- 12.—BIRMINGHAM (near).—Good-class Business; Retail and Dispensing; held by vendor over 30 years, now retiring; returns average £1,089; gross profit £450; roomy house; position unique; price £700.
- 13.—SUSSEX (Health Resort).—Dispensing and Retail Business; held by vendor many years; returns average £1,226; present rate less; double-fronted shop, well fitted and fully stocked; further details on application.
- 14.—SURREY (Favourite Residential Locality).—Good-class Business; held by vendor about 50 years; now retiring; returns £1,050, at fair prices; full investigation courted; offer wanted.

Particulars of any of the above will be furnished on application.

N.B.—NO CHARGE TO PURCHASERS.

## VALUATIONS FOR STOCKTAKING.

Messrs. O. & Co. desire to emphasise the necessity of a Periodical Statement of Account, by which means alone Profit, the value of Business, &c., can be determined. Involving as this does the labour of Stocktaking and Valuation, it is often omitted, and eventually becomes the cause of confusion and loss.

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DERBYSHIRE.—Good-class Light Retail and Dispensing in inland health resort; now under manager, and doing £750 per annum; capable of being increased very quickly to £1,000; valuation, about £700; an excellent concern.

ESSEX.—Very nice Retail, Dispensing, and Prescribing; grand opening for Photo and Optics; good Proprietaries; nice, well-fitted shop and convenient house; low rent; returns nearly £500; excellent profits; price £250; splendid concern and very little opposition; only wants seeing; healthy district.

WORCESTERSHIRE.—Splendid Light Retail, with Photo and very valuable Proprietaries, in good business district; good shop, and nicely fitted; old established; returns £500; price £350, or valuation; this is a fine chance to acquire a real genuine concern.

YORKS.—High-class Family and Dispensing Business in fashionable health resort, doing about £700, but capable of being doubled; profitable; price £450; only wants seeing.

MIDDLESEX.—Light Retail, Dispensing, and Prescribing; pretty district; good house; returns £700; net profit £200; price £550.

YORKS.—Good Country Mixed Retail, Prescribing, and Photo; excellent shop and premises; garden; old established; returns nearly £700; profitable; price only £230; no qualified opposition.

LANCS.—Nice Light Retail and Dispensing and good Proprietaries; busy town, and the business capable of being greatly increased; returns £500; profit £200; price £350.

YORKS.—Very good Mixed Country Retail, which can easily be greatly increased by qualified man; good shop and house, returns over £520; price £250; grand opportunity.

LANCS.—Very nice Retail and Dispensing Business; good sale of own Proprietaries; good premises and nice position; old-established; returns over £500; price £350, or valuation; very profitable.

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Recommended by—MESSRS. BARRON, HARVEYS & CO.

Telephone: MESSRS. MEGGESON & CO.  
No. 27 Victoria. MESSRS. BARCLAY & SON, LTD.

TEN miles out; established 14 years; one opposition; pop. district 10,000; good prices; returns £1,100; small house, £38 (5 rooms), kitchen and office, stable and loft; cellar; lease 10 years; double-fronted shop; good window; fairly fitted; every investigation; price, first reasonable offer, will remove any stock not required.

LONDON, S.W.—Good Family Retail, Dispensing, and Prescribing; good prices, several good proprietaries, no Dentistry, Photo, or Optics; shop single-fronted, fitted throughout in mahogany and fully stocked; house, 10 rooms; back yard and small area private entrance; average returns £750; net profit £270; estimated stock and fixtures £400; price £600; good lease; quick sale desirable.

LONDON, S.W.—Good-class Dispensing and Prescribing, some Dentistry and Photo, no Optics; returns average £800; rent £126; lease 17 years; double-fronted corner shop; well fitted; house, 6 rooms over shop, every convenience, side entrance, small yard; estimated value stock and fixtures £500; price £450.

BATTERSEA.—Death Vacancy.—Recommended; will double itself directly; position excellent; wants younger and up-to-date management; price, value of stock and fixtures only, say £250.

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1.—SOUTH-WEST OF ENGLAND.—Good-class Country Retail Business; well connected and very profitable; returns about £1,000; net profit £500 to £550; good house and garden; stock and fixtures worth over £850; price £900 or close offer.

2.—SURREY (Charming Locality).—First-class Family Retail and Dispensing Business, producing a clear net profit of nearly £450 yearly; modern, up-to-date Pharmacy; very best position; fully stocked; splendid house; price £1,200; references required.

3.—MANCHESTER (near).—First-class Retail Business, with good Photographic connection; returns average over £1,750; net profit £345; splendid position; owner retiring; price £1,250.

4.—HAMPSHIRE.—Old-established Light Retail, Dispensing, and Prescribing Business; returns average £1,550; net profit £450 to £500; very best position; good reasons for selling; price £1,275.

5.—SUSSEX.—Good-class Country Retail, Prescribing, and Dispensing; returns last year £399; can be increased in younger hands; good market town; owner retiring; price £600 or offer.

6.—MIDLANDS.—Light Mixed Country Retail Business, in best position of small town; returns £850; scope for increase; low rent; corner shop, well fitted and stocked; price £375 or near offer.

7.—LANCS (Small Town).—Light Retail, Prescribing, and Photographic; in central position; returns over £600, net profit £185; good house and shop; price £300 or valuation.

8.—VICTORIA STATION (near).—First-class Retail and Dispensing Business, with valuable Specialities; returns over £1,250; net profit £400 to £450; splendid position; price £1,000.

9.—LONDON (Northern Heights).—Good-class Retail and Dispensing, with good sale of own Specialities; returns over £1,900; elegantly fitted shop; splendid stock; price £1,250; personally inspected.

10.—EASTERN COUNTIES.—Family Retail, Prescribing, and Agricultural Business; in pleasant market town; returns over £1,200; net profit £300; large house and splendid garden, etc.; price £600; rare opportunity.

11.—BERKSHIRE.—Good-class Retail and Dispensing with good Photographic trade; returns £1,100, good profits; large shop, well fitted and stocked; good house and garden; price £750 or valuation terms arranged.

12.—KENT.—Old-established Light Country Retail Business, in best position of small town; unopposed; returns £800; net profit £300; easily worked; large house and garden; price £535.

13.—NORTH WALES (Health Resort).—Good-class Retail and Dispensing, with Optics and own Proprietaries; returns £870; net profit £290; splendid position; weak opposition; price £650.

14.—SOUTH COAST.—Light Retail, Prescribing, and Dispensing Business; returns £950; net profit over £250; double-fronted shop, well fitted and stocked; price £630; part can remain.

15.—YORKS (South).—Light Country Retail, Prescribing, and Agricultural Business; in best position of small town; returns £650; scope for increase; very good house; price £250 or valuation.

16.—BANKS OF UPPER THAMES.—Light Retail, Prescribing, and Dispensing Business; returns over £650; net profit £213 (clear); well-fitted shop and good stock; price £300 or valuation.

17.—LONDON, N.W.—Good-class Retail and Dispensing Business; returns £750 to £800; scope for increase; net profit fully £200; price for quick sale £350 or near offer.

18.—LONDON, E.—Profitable Cash Retail and Prescribing Business; in splendid position of busy main road; returns £22 weekly; net profit £300 to £350; price £625.

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**BUSINESSES FOR DISPOSAL.**

3s. 6d. for 50 words or less; 6d. for every 10 words beyond, prepaid.

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**COLONIAL BUSINESSES.**

We call the special attention of our Colonial subscribers to the opportunity this Supplement affords when they wish to dispose of their Businesses, of getting into touch with likely buyers either at home or in the Colonies.

Replies to Advertisements may be addressed to this Office and forwarded to the Advertiser for an additional charge of 6d.

Trade circulars and samples can in no case be forwarded.

**DEVON.**—Good-class Country Retail Business for early Disposal; returns approach £1,000; net profit between £300 and £350; well situated in pleasant market town; very good house and garden; low rent; attractive Pharmacy; exceptionally well stocked; valuation only required, about £900; most desirable investment. Address, "Devonia" (70/040), Office of this Paper.

**KENT.**—Small Business for Sale within 12 miles London; suit beginner or elderly gentleman; very small price asked, as owner cannot attend to it; rent £25 (let off £14); Light Retail; very easily managed. Apply, "Business," c/o Mr. T. Sibley 42 Dunbar Road, Forest Gate, E.

**HOME COUNTY.**—Valuation of stock and fixtures will secure a good-class Family Retail Business in best position of good market town within easy reach of London; present returns £800; has done £1,400 with proper attention, and can again; immediate sale desired; chance rarely offered. Apply, "M.P." (70/400), Office of this Paper.

**LANCASHIRE.**—Chemist's Cash Retail and Prescribing Business; established 20 years; in splendid position, and with excellent modern dwelling-house; stock and fixtures for sale; rent £40, or lease if desired; steady trade, which might easily be doubled; good reason for disposing to bona fide buyer. Apply, 65/36, Office of this Paper.

**LIVERPOOL.**—Main thoroughfare; good position; business much neglected owing to ill-health; in same hands 30 years; receipts for the last 3 years average £500; capable of great increase in energetic hands; no reasonable offer refused. "A." (67/1), Office of this Paper.

**LONDON, N.W.**—Dispensing Business; returns exceed £600; net profit £300; rent £65; lease 21 years; premises in thorough structural and decorative repair; convenient house; the domestic arrangements leave nothing to be desired; the vendor is selling for family reasons after an occupation of 45 years; large, well-fitted Pharmacy, replete with every necessity for a large turnover; the position a commanding one, in a good-class neighbourhood; worthy the investigation of any gentleman seeking a business which from its surroundings, under more energetic control, progressive returns may reasonably be expected; price £350, about the value of the stock and fixtures. Apply, M. A. Carter, 311 City Road, London, E.C.

**LONDON, S.E. (Residential Suburb).**—Large modern Pharmacy; solid mahogany fittings; well stocked; house, 7 rooms and bathroom, private entrance; pleasant garden; stable and coach-house; returns average last 6 years over £700, good profits; Optics and Dentistry recently added; rapidly increasing; only 4 changes last 50 years; rent £75; immediate sale necessary; splendid opportunity for man with £450 cash; inspection invited. Apply, "W. G. A." (47/12), Office of this Paper.

**LONDON Suburb.**—High-class Light Retail, Dispensing, and Photographic Business in main thoroughfare; shop handsomely fitted and well stocked; good opening for Optics; price, valuation of stock and fixtures (about £400); fullest investigation invited to genuine buyer; references required; no agents. "Confidential" (34/20), Office of this Paper.

**LONDON, N.**—An excellent, up-to-date Cash Business is offered, with good house attached; thickly populated district; middle and working class trade; turnover nearing £1,000 per annum; profits unusually good; will sacrifice for £600, prompt cash. Apply, "Bonus," c/o Willows & Co., Ltd., 40 Aldersgate Street, E.C.

**LONDON, N.**—For immediate Disposal, owing to expiration of fair lease, genuine good-class Retail and Prescribing Business; fair amount Dispensing; moderate rental; new lease granted same terms; nearly 75 per cent. covered by sub-letting; returns average £670; could quickly be improved by introducing modern Store trading; price £400; near cash offer accepted; no agents. Apply, "C. S." (68/36), Office of this Paper.

**SCOTLAND.**—Genuine established Dispensing, Prescribing, Agricultural, Photographic, Optical, and General Retail Business for Sale; Dentistry as a side-line, which pays rent; average turnover last 5 years £750; rent moderate; lease; well-fitted shop, with ample storage accommodation. Full particulars from "Genuine" (67/4), Office of this Paper.

**S.E. Suburb.** Old-established Business with Photography; prominent position, main road; returns about £600; net profit £160; rent £60; lease; large shop and house; stock and fixtures worth £300; good chance for worker; valuable Proprietaries; opening for Dentistry and Optics; health breakdown; must sell; genuine bargain; offers invited. Address, "Veritas" (71/20), Office of this Paper.

**SEAPORT (LINC.).**—Genuine Family, Retail, and Prescribing Business for immediate Disposal; old established; good position in main thoroughfare; good house and warehouse accommodation; this is an exceptional opportunity to purchase a real profitable business, with many good selling Proprietaries; cash price about £350. "Statim" (67/14), Office of this Paper.

**SOUTH.**—Unopposed, old-established, large Village Business for Disposal; Retail with good Prescribing; splendid profits; suit qualified or unqualified; convenient house; large garden; rent £34; price about £200 cash; genuine reasons for selling. "Sig" (65/10), Office of this Paper.

**SOUTH COAST.**—Branch Drug-stores (good-class); takings £1,200; indifferently managed; seller has interest in other business, and cannot give attention; 40 per cent. of purchase price down, the remainder can remain indefinitely; a splendid opportunity to young man with limited capital. In writing, please state what capital you can command (all treated in confidence), "Y.", 69 Walsingham Road, Hove.

**SOUTH-EAST COAST (Popular Seaside Resort).**—Genuine Light Retail and Dispensing Business, with Photographics; well situated in centre of town, and doing a steady turnover of £900 yearly; changed hands once in 40 years; comfortable house, with bathroom, etc.; nominal rent; valuation required, about £500. "S. E. C." (70/40), Office of this Paper.

**SUFFOLK.**—Genuine unopposed Business; convenient house, nice garden; rent only £125; now under bad management; price for speedy sale £125; suit beginner or unqualified man; taking £6 weekly. "Thymol" (67/5), Office of this Paper.

**WEST RIDING, YORKS.**—Residential suburb; large town; unique opening for Optics and Dentistry; few Patents; exceptionally good house; garden, greenhouse; capable of great increase; average returns last 5 years £950; price all at £400; low rental. Apply, 65/140, Office of this Paper.

**A PROFITABLE Counter, Prescribing, and Photographic Business** at valuation or a low agreed price, as vendor has to sell through illness and go into the country; full investigation invited; good house; lease; moderate rent; returns nearly £700; average net profit £250. Write, "Photo," c/o Burden, 127 Barnsbury Road, N.



## BUSINESSES FOR DISPOSAL

(continued.)

**A** HIGH-CLASS unopposed Country Business within 30 miles of London, situated in very best position among best people; rent only £17, the rest being well let off; good long lease; returns under management £600, and increasing regularly every month; excellent opportunity for increase; well-stocked and well-appointed shop; it must be sold owing to vendor's ill-health; price about £500. "Statim" (65/34), Office of this Paper.

**A** BOUT £250; suit a beginner; Suburban (provincial) Business for Disposal; newly established; living already assured; prospects excellent; rent low; turnover £500; satisfactory reasons given; full particulars to bona fide inquirers. "B." (67/37), Office of this Paper.

**B** U S I N E S S: South Midlands; returns £430; net profit £2 10s. per week, after rent, rates, and every expense paid; cash price £130 or nearest offer; buyers given every opportunity to investigate; a bargain; owner retiring. Apply, "Pharmacist" (67/13), Office of this Paper.

**C** H E M I S T and Botanical Druggist; very profitable; chiefly own Specialities and Prescribing; 14 years' lease; best shopping part of town; smart qualified man would soon double; owing to advanced years owner wishes to sell at once, and would accept any reasonable offer for stock and fixtures. Apply, Gibbs, Wellington Street, Luton.

**C** O U N T R Y Business in small market town, West of England; would suit invalid, as very easily worked, and nearest opposition 10 miles; lovely country; business mostly Specialities, few Patents at full prices, no heavy trade or side-lines; returns over £600; net profit £300; rent and rates £30; stock £230; price £450 cash to effect a quick sale. 65/21, Office of this Paper.

**F** I F T Y guineas; cheapest Business worth having ever advertised; position equal to the best anywhere; practically unopposed; dense population, including considerable number good-class families; aged vendor's health compels sale; younger man adding energetic modern business methods must do well; rent 15s. shop and parlour; undeniable Dentistry opening, N.E. suburb; marketing position. 65/15, Office of this Paper.

**G** E N U I N E bargain; S.W.; for immediate Disposal, profitable little Chemist's Business; well fitted and stocked; few Patents; returns £600 per annum, increasing; price for quick sale £500; part could remain; good house and healthy district; rent £45 on agreement, with option of lease; satisfactory reason for selling. "G. R. H." (66/2), Office of this Paper.

**H** E A L T H Resort, county town and yachting station, West Coast (Wales); high-class old-established Dispensing, Optical, and Retail; excellent and annually increasing connection; only one opposition in town (unqualified) and for a distance of several miles; owner leaving country; low price to dispose before summer season; good premises; low rent. "Alpha" (64/13), Office of this Paper.

**P** H O T O G R A P H I C Dealer's.—South Coast.—An opportunity occurs for the acquisition of a well-known Business in a leading seaside resort; a double-fronted shop, in the best position in the town; possession in good time for summer season; no agents. 67/20, Office of this Paper.

**P** R I C E £200 all at; real bargain; London, W.; profitable Retail and Prescribing; well stocked; returns close upon £900 (proof); main road; crowded neighbourhood; busy marketing centre; must be sold through illness; premises held on lease. Address "Genuine" (70/21), Office of this Paper.

**T** H E proprietor of an old-established Cash Retail in most prominent position London, S.W., desires to Dispose of it privately; everything sold at full prices; net profit is over £400 per annum; every investigation allowed; purchaser must command £1,500 cash. Apply, "Success" (63/3), Office of this Paper.

**T** O Chemists.—For immediate Disposal, Business situate in the City; lease having about 3½ years unexpired at a rent of £112 2s. per annum; very extensive premises, consisting of double-fronted shop, large cellars, and eight living rooms; turnover about £1,000 per annum; stock £300 at cost; lease and goodwill £250; stock, fixtures, and fittings at valuation; an unique opportunity of acquiring an old-established City business at a nominal figure. Further particulars of Francis Nicholls, White & Co., 14 Old Jewry Chambers, London, E.C., Chartered Accountants.

**T** O Chemists.—One of the finest openings in suburb (W.) of London; rent £36; 6 rooms; no opposition; immense medium-class neighbourhood; illness of owner cause of sale; price £60 all at. Call, Russell & James, 176 High Street, Acton.

**W** I L L do £800 this year; in one of the pleasantest suburbs; suit either qualified or unqualified; steadily increasing and extremely profitable; owner must change to country through family illness; good modern house and shop; long, valuable lease at low rent. Anyone with £500 wanting a sound business write, 68/6, Office of this Paper.

**700** customers weekly, last two years; all Small Retail; carefully nursed; grand scope for Dispensing, Prescribing, Dental, Photographic, Optics; lies between high- and working-class districts; splendid premises; good house, market position, where six roads meet; low rent; long lease. Bona fide callers only, 163 Clarendon Road, Notting Hill, London, W.

**5,000** Population.—N. opposition within 5 miles; Prescribing and Mixed Business in Colliery village in Glam.; cash trade; few Patents; £6 10s. weekly under management; rent 12s.; net profit £2; house attached; electric light; stock £100, could be reduced; splendid prospects. Best offer to "Genuine" (67/6), Office of this Paper, secures.

**£50.**—Genuine bargain; about price of stock; stock and fittings honestly worth £120; owner must sell; satisfactory reasons; Drug-stores; going concern; £5 to £7 weekly, can be doubled; 13s. 6d., no taxes; lock-up; modern fittings, mirrored shelves; grand window; no near opposition; small investors note. "Genuine," 26 Hampark Road, Stratford, London.

**£75.**—A Bargain.—London, N.W.—Suit qualified or unqualified; genuine opportunity for capable Prescriber; opening for Dentistry and Photography; price asked little more than valuation of stock and fixtures. "Statim" (68/16), Office of this Paper.

**£125** required for old-established Business; part can be paid by instalments if necessary; exceptional opportunity for an energetic man; no opposition; crowded neighbourhood; could introduce side-lines; well-fitted shop, and good workable stock. 71/13, Office of this Paper.

**£140** all at, in growing neighbourhood 10 miles from London; to a good Prescriber and Dentist this would bring in a little fortune; takings for last 3 years average £7 a week; at present under management. 67/9, Office of this Paper.

**£200.**—Drug Stores; well fitted and stocked; main street; two large windows; population 7,000, growing; no opposition; doing £14 weekly; good man could do £20; net profits last year £214; few Patents; plenty Prescribing; splendid opening for Photo, Optics, Extracting; only wants seeing. Apply, "Genuine" (67/23), Office of this Paper.

**£225.**—Genuine Business; in first-rate working order and great scope for increase; working-class neighbourhood; within easy distance of Victoria Park; net profits £130 or more; good garden and private entrance; electric light, etc., and unusually valuable stock; very good opening for Dentistry, Photography, and Proprietary advertisement. 69/10, Office of this Paper.

**£300.**—Immediate Sale.—Real genuine Business for intending buyer; West-end; nicely-fitted Pharmacy; busy street; theatres, hotels, restaurants close by; rent £75; premises: shop, large parlour (let to West-end doctor), stockroom, cellar; selling through illness; 80 per cent. guaranteed profits, with Optics; Dentistry recently added; Patents all, buyers with £300 only need answer, balance, instalments if desired. "W." (70/32), Office of this Paper.

## BUSINESSES WANTED.

**A** D V E R T I S E R is open to purchase and pay cash down for a good sound Business in the South of England or Lower Midlands, returning £1,000 or more; with good house and garden preferred. "M. J." (64/12), Office of this Paper.

**D** I S P E N S I N G and Light Retail Business wanted; seaside or inland health resort preferred. Particulars to "Veritas" (67/7), Office of this Paper.

**W** A N T E D, shortly, small Chemist's Business with house attached; South or West of England; or would manage a branch with view to succession; Partnership entertained. Full particulars, returns, rent, price, etc., in confidence, with first letter, 66/19, Office of this Paper.

**W** A N T E D, within easy distance of Leicester, a good-class General Retail, returning about £1,000; net profit not less than £250. In strictest confidence, "Private" (64/120), Office of this Paper.



## SALES BY AUCTION.

### LEOMINSTER.

Desirable and exceptionally well-situated Business Premises, No. 2 High Street, Leominster.

**TO BE SOLD BY AUCTION** by Messrs. A. & D. Edwards, at The Royal Oak Hotel, Leominster, on **FRIDAY, June 25, 1909, at 3.30 p.m.** punctually, subject to Conditions of Sale.

A **MESSUAGE SHOP and PREMISES**, No. 2 High Street, Leominster, adjoining the Town Hall, and having a frontage of 22 ft. 8 in. to High Street, with a depth of 75 ft. 6 in., with large and convenient Warehouses and Cellars.

The Premises are now in the occupation of Mr. R. B. Sandiland, Chemist and Druggist, under a lease which expires on September 29, 1910, at the annual rent of £50. These premises have for upwards of 50 years been used in this business, and offer an excellent opportunity of securing an old-established and flowing business.

The Town Council of Leominster are the owners of the Vault which opens from High Street, and the Coal Cellar at the rear thereof, and they are now occupied with the above premises, at a yearly rental of £2, which is paid by the Vendor.

Further particulars may be had of the Auctioneers, Corn Exchange Offices, Leominster, or of Messrs. Lloyd & Son, Solicitors, Leominster.

### TO CHEMISTS AND DRUGGISTS.

**MESSRS. FRYER, COOPER & CO.** will **SELL BY AUCTION**, at their Rooms, 3 Redcross Street, City, on **THURSDAY, June 10th**, the **STOCK and Handsome FITTINGS** of a Chemist, comprising a 10-ft. Mahogany Counter enclosed by 4 glazed doors under and 24 drawers at back, a 12-ft. Mahogany and Marble Dispensing-counter with 4 glazed doors and a full-front sponge-case and 2 perfumery cases over, with mirror backs; a 10-ft. Back-fitting and a 9-ft. Side Counter with 4 glazed doors and drawers with glass labels, 2 show-cases over with centre mirror, 3 nests of 90 drawers with glass knobs and labels, 150 shop-rounds and contents, 3 cwt. of cream of tartar, 5 cwt. of castor oil, 100 gross of soap powder, patent medicine, brushes, combs, photographic goods, soaps, perfumery, drugs, sponges, and a large quantity of miscellaneous items.

On view day prior and morning of Sale, and Catalogues may be had of the Auctioneers, 3 Redcross Street, E.C.

## TENDERS.

### TO MAKERS OF SURGICAL DRESSINGS, ETC.

**THE Metropolitan Asylums Board** invite **TENDERS** for the Supply of **DRUGGISTS' SUNDRIES and ANTISEPTIC DRESSINGS and BANDAGES**, including Gauzes, Wools, Lints, and Tow.

Forms of Tender (upon which alone Tenders will be received), giving all particulars, can be obtained at the Office of the Board, Embankment, London, E.C., where Tenders, duly filled up, must be delivered not later than 10 A.M. on **WEDNESDAY, the 9th June, 1909.**

Those whose Tenders are accepted will be informed accordingly in due course.

The Board do not bind themselves to accept the lowest or any Tender, and reserve to themselves the right to accept the whole or any part of a Tender.

By order,

**T. DUNCOMBE MANN,**  
Clerk to the Board.

May 28, 1909.

## PARTNERSHIPS.

**OWING** to the death of one of the principals of an important business in a residential town in the West of England, there is a vacancy for an Active Partner (from 30 to 40 years of age), who has been accustomed to good-class Dispensing business and having Photographic trade experience; full information as to turnover and annual profits will be afforded; capital required from £1,000 to £1,500, according to arrangements; large and convenient house, pleasantly situated; anyone with energy and possessing good all-round experience will find this an exceptional opportunity. Apply, "Pharmacy" (65/26), Office of this Paper.

**PARTNERSHIP** wanted in good Retail with small Wholesale. 70/20, Office of this Paper.

## SITUATIONS OPEN.

3s. 6d. for 50 words or less; 6d. for every 10 words beyond, prepaid.

**RESULTS**  
OF ADVERTISING IN THIS SUPPLEMENT  
LAST WEEK **May 29, 1909**

NATURE OF ADVT	REPLIES
REPRESENTATIVE	20
SITUATION WANTED	16
ASSISTT	14
LAB. ASSIST	11
WORKING CHEMIST	11

This Blackboard demonstrates that Advertisers using these columns get a ready response to their announcements. The figures only refer to some of the letters **RECEIVED** AT OUR OFFICE on behalf of advertisers who use a number or nom de plume.

### RETAIL.

**BIRMINGHAM.**—Junior Assistant required, outdoors, unqualified, with a knowledge of Homeopathic Pharmacy. Apply, stating salary, references, etc., to Radford, M.P.S., 14 Union Street, Birmingham. Letters not answered in three days may be considered declined.

Replies to Advertisements may be addressed to this Office and forwarded to the Advertiser for an additional charge of 6d. Trade circulars and samples can in no case be forwarded.

### UNIQUE!

An assistant wrote to us (48/44) from Providence R.I., U.S.A., on **MAY 7** as follows:—

I should esteem it a favour if you would kindly insert the following ad. in your C. & D. Supplement, published **FRIDAY, MAY 28, 1909.** I leave America on the 18th, and will forward you p.o. immediately on my arrival in England.

The next letter from the same correspondent (64/11), is written from a Cheshire town and is dated **MAY 29.** It reads as follows:—

I herewith enclose p.o. for ad. which you kindly inserted for me through my instructions from Providence R.I. I am pleased to say that I engaged through same early on Saturday morning.

This is a record in quick results. Our correspondent's advertisement appeared on the date he specified and he secured a situation on the following morning—within a day or two of his arrival in this country.

**BOMBAY.**—Wanted, qualified Assistant, under 25 years of age; passage P. & O. paid out and home; salary first year £172, second year £192, third year £212 per annum; 3 years' agreement certain. Apply, with photo and copy testimonials, to "R. L.," c/o S. Maw, Son & Sons, 7 to 12 Aldersgate Street, E.C.

**BRADFORD.**—Qualified Manager wanted; one accustomed to Store trade and pushing own Specialities; under 35 years preferred. State age, salary, and experience to J. Savage & Co., Ltd., Chemists, Bradford.

**BRIGHTON.**—Junior wanted in a Light Retail; outdoors; knowledge of Dispensing. Photo (to be returned) and full particulars to Marten, 40 London Road, Brighton.



# SITUATIONS OPEN *(continued.)*

**BRIGHTON.**—Assistant wanted; 25 to 34; single preferred; reliable Dispenser, good Counterman; salary 35s.; afternoon off. Apply, enclosing photo, to "Full Particulars" (66/26), Office of this Paper.

**CALCUTTA.**—Wanted, qualified Assistant for Calcutta; passage paid out and home. For particulars apply to 58/7, Office of this Paper.

**CAMBERLEY.**—Gentlemanly Assistant required by June 20 for a good-class Family business; indoors. State age, height, salary, experience, and reference to R. J. Evans, M.P.S., Camberley, Surrey.

**CAPE COLONY.**—Qualified Assistant; about 26; 3 years' agreement; salary £180 first year, £192 second year, £204 third year; second-class passage paid out. Apply, with photo and copies of testimonials, to "R. L.," c/o S. Maw, Son & Sons, 7 to 12 Aldersgate Street, E.C.

**CEYLON.**—Qualified Assistant, about 24; hours shorter, pay progressive and higher, than in England; excellent climate; passage paid out and home. Apply, Dakin Brothers, Ltd., 82 Middlesex Street, Bishopsgate Street, E.C.

**CHELTENHAM.**—R. Jeffrey & Son will shortly have a vacancy for a good all-round Assistant and accurate Dispenser; one only kept; comfortable home for a quiet man. Please state salary expected and usual particulars. Letters not answered in three days declined.

**FAVERSHAM.**—Junior or Improver wanted for a Country business; half-day off weekly; no Sunday duty. Full particulars as to reference, salary, etc., enclose photo, to T. J. Thomas, Pharmacist, Faversham.

**FULHAM, S.W.**—Qualified Manager for branch in working-class district, to live on the premises; good references necessary, and state whether married or single, age, experience, and salary required, to "G. B." (68/14), Office of this Paper.

**JAPAN.**—Qualified Assistant (about 24) in old-established English Chemist's; excellent climate and surroundings; short hours; liberal and progressive salary; passage paid out and home. Apply, 41/10, Office of this Paper.

**LIVERPOOL.**—Qualified Assistant (indoors) to take charge of Branch. State age and salary required to S. Stephenson, Pharmaceutical Chemist, 98 Kensington, Liverpool.

**LIVERPOOL.**—About June 20, indoors, a gentleman as Assistant in good-class Dispensing business, near Liverpool School of Pharmacy. Please apply, with full particulars, Anthony S. Buck, 179 Bedford Street.

**LONDON, S.W.**—Strickland & Co., Pharmaceutical Chemists, 23 Cromwell Place, South Kensington, require a qualified Assistant; good Dispensing experience; age about 23; indoors.

**LONDON, S.E.**—Junior Assistant required for Store and Photographic business; no Sunday duty; off alternate Thursdays 2 and 5. State age, references, height, salary (outdoors), and say when disengaged, Hooper's Drug-stores, Ltd., 59 High Street, Peckham.

**LONDON, W.**—Part-time Assistant wanted; 3 or 4 evenings a week; must have good references. Apply, Gould, 10 High Road, Chiswick, W.

**LONDON, E. (District Railway).**—Part-time Assistant wanted, about 23, Saturdays 5 till 11 p.m. and Sundays 6-9 a.m., for quick Retail work. Apply, by letter, with terms and references, J. Brooks, Pharmacist, 8 High Street North, East Ham.

**LONDON, W.C.**—Qualified Locum wanted for 3 weeks from about July 20; must be used to good-class business. Also, immediately, Part-time Assistant for 12 hours weekly. Apply, Burden & Co., Pharmacists, 41 Store Street, Bedford Square, W.C.

**LONDON, S.W.**—Dispenser required; qualified, Minor exam.; outdoors; usual hours, 9 to 7; high-class Dispensing. Apply, by letter, stating experience and salary expected, "Chemist," Civil Service Co-operative Society, Ltd., 28 Haymarket, S.W.

**LONDON, N.W.**—T. H. Bateman & Co., 223 Finchley Road, require a Senior Assistant; qualified; indoors; good Dispensing and high-class experience essential. Reply, by letter in first instance, with full particulars and enclose photo.

**LONDON, N.**—Manager, qualified, wanted at once; live on premises. Apply, with full particulars in first instance, enclose photo, to Wells Wood, 92 Green Lanes, London, N.

**LONDON, S.E.**—Qualified Junior for brisk Suburban Dispensing Business; knowledge of Photography desirable; abstainer preferred. Apply, Mellin & Co., Eltham, S.E.

**LONDON (West).**—Assistant, qualified, with town experience; indoors; 3 share duties. Letters, stating height and with full particulars, photo if possible, to "F. W. D.," 3 Linacre Road, Willesden Green, N.W.

**LONDON, S.E.**—Young qualified Assistant in good-class, up-to-date Retail, Photo, and Dispensing business; outdoors; half-day weekly. Send particulars, 71/12, Office of this Paper.

**LONDON, E.**—Qualified Assistant; outdoors; one day off weekly; Sundays 6.30 to 9.30 p.m.; one seeking permanency preferred. Apply, giving full particulars as to age, salary required, and reference, Arthur Lacy, M.P.S., The Aldgate Drug-stores, 116 High Street, E.

**LONDON, N.W.**—Qualified Locum for half a day per week (any day except Saturday) and once a month on a Sunday for five hours. Apply, personally if possible, to Chas. W. Brumwell, Pharmaceutical Chemist, 72 Euston Square, N.W.

**LONDON, S.W.**—Required, Dispenser; Minor qualification; age about 25; hours of work approximately 8.45 to 6 p.m., Saturdays till 2; no Sunday duty; outdoors: 14 days' annual vacation. Reply, stating full particulars of experience, to 1074, Sell's Advertising Offices, Fleet Street, E.C.

**LONDON, S.E.**—Smart qualified Assistant wanted (indoors); good salary to right man; half-holiday weekly. Apply, "G." (70/9), Office of this Paper.

**LONDON, N.**—Immediately, gentlemanly Assistant; about 24, must be steady, obliging, industrious, and capable of taking charge when necessary; references must bear every investigation. Enclose photo (to be returned), stating salary required (outdoors) and full particulars in first letter, to H. Stuckey, 26 Caledonian Road, N.

**LONDON, N.W.**—Manager; qualified; not over 35; outdoors; permanency; good references essential. Send full particulars, with photo, if possible (which will be returned), to F. G. Turner, 123 Canterbury Road, Kilburn, N.W.

**LONDON, W.**—Qualified Assistant, at once, for West-end Dispensing business; indoors; not over 30. Apply, with full particulars, Lynn, 94 Queen's Road, Bayswater.

**LONDON, N.W.**—Wanted, at once, qualified Assistant; age no object, but must be well recommended as thoroughly steady and trustworthy. State age and salary required (indoors, comfortable home), "W. Y." (71/23), Office of this Paper.

**LYNTON, N.D.**—Wanted, qualified Assistant; indoors; comfortable home; easy hours; first week in July, for 3 months; good-class experience essential; abstainer preferred; Photography. Apply, with photo if possible, stating salary, to S. Lester.

**MALVERN.**—Assistant, accustomed to a good-class business; indoors. Apply, stating salary required, experience, references, age, height, and enclose photo, to W. H. Jones, Pharmaceutical Chemist, Malvern.

**MALVERN.**—Qualified Assistant; accustomed to best-class Retail and Dispensing. Please state full particulars as to previous experience, salary required (indoors), etc., to A. Mander, The Belle Vue Pharmacy, Malvern.

**MANCHESTER District.**—Wanted, immediately, smart Part-time Junior; abstainer; thorough knowledge of Dispensing and gentlemanly address essential; within 20 minutes of two Pharmacy schools. A. J. Gibbs, M.P.S., Withington, Manchester.

**MANCHESTER District.**—Qualified Assistant (outdoors); age not under 24 years; must be energetic and a capable Counterman, with Dispensing and Photographic experience. Address, stating when at liberty, age, height, references, salary, etc., and enclosing photo (to be returned), to T. Woodruff, Pharmacist, West Didsbury, Manchester.

**OLDHAM.**—Wanted, qualified Assistant; outdoors; state age, height, experience, references, and salary required, with photo. Address, 65/11, Office of this Paper.

**ROYAL SURREY COUNTY HOSPITAL, Guildford.**—Male Dispenser wanted; salary £120; candidates must be willing to devote their whole time to the duties, must possess the Pharmaceutical Society's qualifications, and be able to manufacture preparations. Applications, stating age and experience, with copies of not more than three recent testimonials, to be sent to me at the Hospital not later than Wednesday, June 16, 1909.  
W. T. Patrick, Assistant Secretary.



**ST. GEORGE'S HOSPITAL**, Hyde Park Corner, S.W.—Wanted, Holiday Assistant for about 15 weeks, commencing June 21; hours 9 to 5, Sunday (every third) 2 to 4; no meals; age not more than 30; ladies not eligible; salary £2 2s. per week. For further particulars apply to the "Pharmacist" between 10 and 4.

**SOMERSETSHIRE**.—£150 year and free residence for a thoroughly smart, qualified man about 30; married or single; must be used to Agricultural trade and a good, quick Counterman; usual half-holiday; permanency to a really reliable man, who would eventually be offered a share in a business returning £5,000 per annum, as present owner is shortly retiring. Apply, with references and past experiences, to "Ajax" (64/24), Office of this Paper.

**STOCKTON-ON-TEES**.—Wanted, by a firm of Surgeons, in July, a qualified Dispenser, to reside at Surgery; married man preferred; the house is a large and very comfortable one, with a garden; a boy is provided, but a servant must be kept; there are no clubs; applications are desired only from men of high character, and should give full details, and if possible enclose photograph; salary £130 per annum, coal and electric light. Apply, Dr. S. Lyle, 4 West End Terrace, Stockton-on-Tees.

**WIMBLEDON, S.W.**—Junior Assistant, indoors, for Light Retail and Dispensing business; state when disengaged, age, height, experience, and salary required; weekly half-holiday. "Chemist-Optician," 76 High Street.

**WOLVERHAMPTON**.—Improver wanted; age about 19; one who has had 2 or 3 years' experience in a good-class business; outdoors; weekly half-holiday; no Sunday duty. Please apply, giving usual particulars, to Phillips, Pharmaceutical Chemist, Wolverhampton.

**WOLVERHAMPTON**.—Qualified Manager wanted for middle-class quick Store business; weekly half-holiday; no Sunday duty; salary and good commission; splendid opening for energetic young man. State salary and where last engaged to Martyn's Stores, Ltd., Wolverhampton.

**ALSOP & QUILLER**, 137 Sloane Street, S.W., require a qualified Assistant (indoors), age about 23 or 24; duties chiefly Dispensing. Apply, with full particulars, as above, to A. Wigginton. Three assistants kept.

**ASSISTANT**, gentlemanly, good appearance and address, for good-class business in small country town; capable of taking entire management; middle-aged; permanency for suitable man; comfortable home; easy hours and work. Give full particulars of experience, qualification, and salary required, enclosing photo, to "Tanuin" (68/11), Office of this Paper.

**ASSISTANT**, indoors, at once, not over 30; Light Retail and Dispensing business; half-day weekly and two hours off daily; Sunday duty nominal. Apply, stating age and salary required, with full references, to Chettle, Chemist, Clevedon, Somerset.

**BEWELL S**, 19-21 Pitfield Street, Clevedon, have a vacancy for a qualified Manager; salary £2 10s.

**CAPABLE** Assistant required to attend to stock and assist at Dispensing and Counter when needed; qualification not necessary; must have good references. Apply, "Alpha," c/o Messrs. Hearon, Squire & Francis, 38 Southwark Street, London, S.E.

**E. MATTHEWS**, Chemists and Wine Merchants, Ltd., Royston, Herts. require a registered Chemist about the 7th of June; outdoors; hours moderate; no Sunday duty; weekly half-holiday. Please state particulars and salary required in first letter, also send photo (which will be returned).

**FRENCH** Chemist wants a young genteel Assistant (18-20), who would like to learn French Pharmacy and language; good references required; family life conditions; boarded and lodged. Apply to Devie, Chemist, Fontainebleau, France.

**HOSPITAL** Dispensary.—Pupil required, at once, for practical experience by lady Pharmacist; medalist prize-winner, and M.P.S.; one who has passed Apothecaries' Hall preferred. "Triplex" (70/39), Office of this Paper.

**JUNIOR** Assistant, from June 10 to 26, both inclusive, in Mixed Country Retail; hours 8 to 7.30, Saturdays to 8.30, no Sunday duty; outdoors; applications must be accompanied by reference to last employer; testimonials not accepted, and will not be returned. State remuneration to F. E. Rookledge, Chemist and Newsagent, Easingwold.

**JUNIOR** Assistant required; age 19 to 23. Timothy White Co. Ltd., Portsmouth.

**JUNIOR** Assistant. State age, height, salary (indoors), when disengaged. 67/3, Office of this Paper.

**MAJOR** man wanted, immediately, at a School of Pharmacy in London as Locum for a few weeks. Apply, 63/64, Office of this Paper.

**MANAGER**; qualified; Light Mixed Retail business; Photography; aged about 30; gentlemanly and capable; good references. Apply, with full particulars, to Godfrey C. Wood, Pharmacist, 5 George Street, Pontypool, Mon.

**MANAGER**, qualified, for modern Cash business, required immediately. Give fullest particulars in first letter and state when at liberty. 67/170, Office of this Paper.

**MESSRS. DOLBEAR & GOODALL** (late Hitchcock & Co.), 108 High Street, Oxford, require a qualified Assistant as Second, for July 1 (indoors).

**PAK-TIME**; qualified Assistant (outdoors). Apply, H. H. Long, 48 Dorset Street, Baker Street, W.

**QUALIFIED** Assistant, for relief work at branch shops; energetic; experienced; satisfactory references required; outdoors; no Sunday duty; one afternoon each week. Apply, with usual particulars, and enclose photo if possible, to Managing Director, Henry Hodder & Co., Ltd., 5 Nelson Street, Bristol.

**QUALIFIED** man required; to one proving himself thoroughly reliable and business-like, very good prospects are offered. Give full particulars as to salary, references, in first letter, to "Competent" (65/08), Office of this Paper.

**QUALIFIED** Assistant for Counter and Dispensing; Midlands; first-class references indispensable. Apply, 63/32, Office of this Paper.

**QUALIFIED** Manager, middle-aged, for good-class country business; duties exceedingly light; a substantial commission apart from salary to one who can Extract and take Impressions; a permanency to steady, sober, reliable man; must have undeniable references. 65/14, Office of this Paper.

**QUALIFIED** Assistant wanted, middle-age, for Mixed Country business; small town in East Cornwall; indoors; abstainer; permanency to a suitable man. Apply, stating salary required, references, etc., to Evans, Gadd & Co., Ltd., Exeter.

**QUALIFIED** Assistant required, to commence at once; very comfortable and lucrative berth. State age, experience in detail, and give references to save time. 67/107, Office of this Paper.

**QUALIFIED** Assistant wanted for high-class Dispensing business; capable man requiring permanency would be liberally dealt with. 68/38, Office of this Paper.

**QUALIFIED** Manager wanted for Light Suburban business; weekly half-holiday; no Sunday duty; salary (including commission) £120 per annum, with rooms, gas, etc.; for outdoors £150 per annum. 65/33, Office of this Paper.

**SMART** Junior or Improver for good-class Dispensing and Photographic, Retail. Salary and full particulars to J. A. Dale Chemist, Stoke-on-Trent.

**THE** Royal Hospital for Diseases of the Chest, City Road, E.C.—Dispenser required; must have the Major or the Minor Pharmaceutical qualification; commencing salary £100 per annum, increasing £5 per annum to £120; similar experience a recommendation. Applications and testimonials to be sent to the Secretary at the Hospital.

**UNQUALIFIED** man required to manage business run on Drug-store lines; must be capable, energetic, married, and abstainer; give full particulars in first letter; references for past 7 years must bear fullest scrutiny. Apply, "Drug-stores" (65/8), Office of this Paper.

**VACANCIES** for qualified Assistants, owing to shortly opening several new branches on South Coast; progressive salaries to gentlemen with ability. Timothy White Co., Ltd., Portsmouth.

**W. CHAS. SAYERS**, Chemist, Lewisham, requires a good Junior Assistant; Dispensing and Photographic; outdoors. Full particulars.

**WANTED**, qualified Branch Manager for good business in Liverpool; also unqualified Assistant. Apply, with full particulars, to "Salol," c/o Evans Sons Lescher & Webb, 56 Hanover Street, Liverpool.

**WANTED**, Dispenser, to begin July 5; 7½ hours daily; elderly man preferred. Apply, stating age, experience, salary required, and enclosing copies of testimonials, to Dr. Preston, Woodbridge, Suffolk.

**WANTED**, an Assistant, about 23 to 25 (qualified), for Dispensing business. State age, height, salary (indoors), when disengaged, experience if Dispensing and Photography, names of two last employers, and time with each. 67/03, Office of this Paper.

**WANTED**, an energetic, reliable Manager for an up-to-date Drug Store; qualification not essential; married man preferred. State age, salary required, and fullest particulars of experience, to 67/17, Office of this Paper.



## SITUATIONS OPEN.

## WHOLESALE.

**SCOTLAND.**—Drug Traveller wanted. State age, experience, and salary required, "Soodrug" (64/63), Office of this Paper.

**LONDON** Wholesale Drug house require an experienced Export Invoice Clerk for their office. Address, stating age, salary expected, and previous experience, to "Savant," c/o Streets', 30 Cornhill, E.C.

**A** MANUFACTURING firm wish to obtain, for an annual consulting fee, the advice of a Chemist thoroughly conversant with the most up-to-date methods for the preparation of Tinctures. One only with wide practical experience need apply to "B. D. C." (71/4), Office of this Paper.

**A** ANALYTICAL and Laboratory Chemist, by London Manufacturing Chemists; fully experienced in Drug Analyses and Standardisations, and with a working knowledge of General Laboratory routine. Apply, giving salary required and all particulars, to 46/8, Office of this Paper.

**E** XPERIENCED Countermen required; Wet and Dry. Write, stating experience, etc. "Export" (65/37), Office of this Paper.

**L** EDGER Clerk (Junior) required for the office of a London Wholesale City Drug house. Address, giving particulars respecting experience, salary expected, etc., to "Figures," c/o Streets', 30 Cornhill, E.C.

**M** AJOR Man.—A vacancy occurs in the Analytical Laboratory of a firm of Manufacturing Chemists for a Pharmaceutical Chemist; must be experienced in the Analysis of Galenicals, Medicinal Chemicals, etc. Apply, stating full particulars as to age, experience, and salary required, to "B. M." (63/54), Office of this Paper.

**P** RINTING INK MANUFACTURERS, London, require energetic and capable Ink-maker, thoroughly experienced in Black and Coloured Inks, for Lithography, Letterpress, Tri-colour Process, etc.; must be competent matcher and thoroughly understand Printers' requirements and modern Printing Machines and methods. Address particulars of experience, age, qualifications, salary required, "Ink" (66/10), Office of this Paper.

**T** RAVELLER required to call upon Chemists in the S. and W. of England; thorough knowledge of the trade essential. State full particulars of age, experience, and salary, to 71/19, Office of this Paper.

**W** ANTED, qualified Chemist for Manufacturing Drysalts' and Grocers' Sundries, with good experience in Manufacturing; energetic and reliable man only; applications to be in not later than June 7. 65/29, Office of this Paper.

**W** ANTED, Traveller to take up new Toilet Preparation as a Side-line; good commission to suitable man. Apply, in confidence, Veronique, Ltd., 14-15 Conduit Street, W.

**W** ANTED, Travellers (country), calling on Chemists, to sell as a Side-line, on commission only, a novel Proprietary Article used by Chemists largely. Apply to "L. M. N. O." (68/4), Office of this Paper.

## FOR SALE.

**F** OR Sale, very cheap, whole or in part, entire contents of small Laboratory, comprising Chemical and Physical Apparatus, Chemical Cabinets, Bottles, fitted Chemical Bench, etc. Lists on application, Watt, Hingham, Attleboro'.

**F** OR Sale.—A rare opportunity for Gentleman commencing Chemist's Business.—Contents of double-fronted shop; mahogany 15 ft. 9 in. drawers with glass knobs, shelving and cornice over; 13-ft. counter with drawers under, marble top, plate-glass back; dispensing-screen; stock; at Ramsden's, 118 High Street, Gillingham, Kent.

**P** LATE-GLASS SHELVES for Window, good Second-hand.—1 set 3 ft. long, with standards and brackets, 30s.; 1 set of ditto, 4 ft. long, ditto, 42s.; 1 set of ditto, 5 ft. long, ditto, 55s.; 1 set of ditto, 6 ft. long, ditto, 65s.; 1 4 ft. 6 in. Bent Front Counter Case, 75s.; 1 6 ft. Dispensing Screen with mirror centre, £4 10s.; 120 Recess Label Rounds, £8 10s.; 12 doz. Gold-labelled Rounds, £5 15s.; 12 3-lb. Blue Recess-labelled Ointment Jars, 48s. R. Tomlinson & Sons, Broad Street, Birmingham.

**W** ALL-FIXTURE, 10 ft. long; dispensing-counter, 5 cases, mirror in front; nearly new; £17 10s.; carboy, 8s. 6d.; desk, 7s. 6d.; small case, 2s. 66/25, Office of this Paper.

## AGENCIES.

**C** ANADA.—The Coming BOOM.—Now is the time for MANUFACTURERS to obtain a footing in Canadian markets, a GENTLEMAN with many years' experience, and on BEST TERMS with all principal BUYERS in CANADA, U.S.A., and MEXICO, is about to start on his annual six to nine months' visit to these countries, and wishes to REPRESENT ONE or TWO additional FIRMS on equitable terms; large turnover assured. Address, "L. Z.," c/o J. W. Vickers & Co., 5 Nicholas Lane, London, E.C.

**A** GENCIES wanted for Australia and New Zealand.—The advertiser, who will arrive in London on or about June 20, has experience of over 15 years in the Agency business in the above Colonies, and is well known to all buyers; references given; advertiser will be pleased to call by appointment. "Australasia" (63/63), Office of this Paper.

**F** IRM with central wareroom and office would act as Special Agents or Representatives for good-class firm desiring representation among Chemists, etc.; good connection. Apply, 59/270, Office of this Paper.

## TO LET.

**S** MALL Manufacturing Premises in the N.E. district to be let; canal frontage 61 ft., entrance from well-made road; substantial buildings; total area 5,600 sq. ft.; suitable for Chemical Manufacturer or other manufacturing firms. Apply, Messrs. Green & Son, Auctioneers and Surveyors, 17 St. Swithin's Lane, E.C. (Z. 2,278.)

**S** OUTH KENSINGTON (main road).—One or two unusually attractive Shops, commanding position in busy shopping centre, to be let; suitable for Chemist. Apply on premises, 133 Coleherne Court, Old Brompton Road, S.W.

**T** O Let, Shop and House suitable for Chemist; about one-third of population with no other Chemist near; population of town between 8,000 and 9,000 in winter, three times that number in season; splendid opening for young man starting; 7 rooms and large dry store; immediate possession; rent £30. Apply, 50 William Street, Herne Bay.

**T** O Let, exceptional position for Chemist, centre of the High Street, Baint; new premises; Shop and House of 6 rooms; front will be fitted to suit tenant; dark-room and well-fitted store; long lease for sale at moderate premium. Peake, Chemist, Hertford.

## SITUATIONS WANTED.

1s. for 12 words or less; 6d. for every 10 words beyond, prepaid.

## RETAIL.

**M** ANAGER; unqualified; vacant June and August. "Extractor," 549 Caledonian Road, N.

**M** ANAGER, Assistant, Locum; permanency; excellent references; disengaged. 137 Blenheim Crescent, W.

**A** SSISTANT (39), experienced, good references, seeks permanency. "Spec," 6 Newland, Northampton.

**P** ART-TIME; mornings and two evenings free; thoroughly experienced. "E. S.," 27 Chelsham Road, Clapham, S.W.

**Q** UALIFIED Manager or Locum; disengaged; good experience; town and country; recent references. "M.I.S.," 1 Byne Road, Sydenham.

**A** SSISTANT; outdoors; London or near; experienced; age 49; salary 36s. week. "Reliable," 17 Westbury Avenue, Wood Green, N.



**QUALIFIED**; 25; 7 years' experience. "Pharmacist," 32 Dinorwic Street, Carnarvon.

**LOCUM**; qualified; disengaged July 5; good experience and references. "G., 73 De Vero Gardens, Ilford.

**PERMANENT** or Locum; experienced; good references. "Chemicus," 894 Coventry Road, Birmingham.

**LOCUM**.—Pharmacist; disengaged June 12; town and country experience. Price, Brynamlwg, Crowboro', Sussex.

**CIVILITY** and courtesy; 14 years' every experience; unqualified; London and provincial. 274 High Street, Rochester.

**JUNIOR** (19), 3½ years' experience, seeks engagement. "W. J. W., 39 Irene Road, Parson's Green, London.

**NOTTINGHAM** District.—Assistant (24) desires berth; experienced; reliable. "W. F., 55 Great Percy Street, W.C.

**LOCUM-TENENS**; qualified Chemist, first-class experience, seeks above during summer and autumn. 64/20, Office of this Paper.

**QUALIFIED**, Manager or Senior; single; 30; good references; 15 years' experience. "J., 66 Victoria Road North, Southsea.

**DISENGAGED**; London experience; unqualified; 33; Locum, permanency. "Competent," 146 Philip Street, Newcastle-on-Tyne.

**UNQUALIFIED** Assistant; 25; decent appearance; Dispensing, Photography; good Salesman. Fulton, 42 Sackville Road, Hove.

**WALES** (or vicinity).—Locum or permanency, 16 years' experience; disengaged June 4. Jones, 7 Dyffryn Street, Pontlloftyn, Glam.

**JUNIOR** or Improver; aged 19; present employer will give excellent reference. F. Billington, c/o J. B. Shattock, Pharmacist, Lancaster.

**LOCUM** or otherwise; tall; smart; energetic; single; young; good all-round experience. Melling, Pharmacist, Ashton, Newton-le-Willows.

**LOCUM**; qualified; excellent references; now booking; fifth season; disengaged from June 20. "Claus," 21a Castletown Road, West Kensington.

**WANTED**, situation as Junior; Thane preferred; 2 years' experience. Dispensing and Photography. Write, Hammond, c/o Nile House, Broadstairs.

**ASSISTANT**; 26; 16 years' London and provincial experience; highest references; permanency or Locum. "Aspirin," 11 Ormonde Mansions, Southampton Row, W.C.

**JUNIOR**; 22; unqualified; Dispensing, Photography; General Retail; London experience; excellent references; disengaged. "R. H., 54 St. John's Wood Road, London, N.W.

**JUNIOR**; age 19; 4 years' experience in Dispensing, Retail, Sight-testing, Retinoscopy; abstainer; Northern Counties preferred. A. W. Thorne, The Modern Pharmacy, Huddersford.

**ASSISTANT**; 27; first-class Retail, Dispensing, and Photographic, Extractor, permanency required; highest references. "Statim," 35 Commercial Road, Bournemouth.

**M.P.S.**; disengaged July 24; good experience; Dispensing, Photography; 25; abstainer; Northern Counties preferred. "Pharmacist," 18 Kent Road, Birkdale, Lancashire.

**LONDON**.—Junior wants indoor situation in good-class business; good Dispenser, Photography; satisfactory references; tall; disengaged June 14. "F. L. J., 79 Rutland Street, Regent's Park, N.W.

**LOCUM**; qualified; 28; Prescriber, Extractor, Photography; Continental; 6 years' continuous experience and references; disengaged 23rd. T. H. Buswell, c/o MacCreath, 7 Aylestone Road, Leicester.

**QUALIFIED** (30), 14 years' varied experience at home and abroad, "good Counterman, seeks position as Manager, Salesman, or Representative, outdoors. Apply, 67/32, Office of this Paper.

**SMART**, competent, unqualified Assistant or Manager; 29; excellent Counterman, thoroughly-experienced Salesman; steady and reliable; modern methods; references. "Statim," 90 Bouverie Road, Stoke Newington, N.

**QUALIFIED** (24), 8 years' experience, seeks situation as Assistant in Pharmacy; best references; indoors preferred; French and German languages, slight knowledge of English. Georges Rein, Pharmacie Lappart, Rue Pont-Thomas 3, Liège, Belgium.

**LOCUM**; qualified; disengaged. 66/32, Office of this Paper.

**JUNIOR**; aged 20; tall; good references; in- or out-doors. 68/21, Office of this Paper.

**DISPENSER** (Hall); excellent experience and references. 67/35, Office of this Paper.

**ASSISTANT**; 27; unqualified; excellent references. Innes, 10 Roseneath Road, Clapham Common.

**LOCUM**; qualified; references; disengaged 10th inst. until July 3. "A., 41 Palmerston Road, Birmingham.

**LADY** Dispenser; Doctor of Institution; good testimonials. "X., 40 Mayflower Road, Clapham Road.

**DISPENSING** or General Assistant; Hospital, Store, and West-end experience. "Dispenser," 126 Euston Road.

**DISENGAGED**; experienced, qualified Manager; well recommended; permanency. "Chemist," Radnor House, Bulth Wells.

**SENIOR**; outdoors; 28; qualified; highest-class experience; W.C. or City preferred, but London not essential. 68/6, Office of this Paper.

**DISENGAGED**; Junior or Improver; 19; just completed apprenticeship; Photography. "Statim," 7 Graham Road, Chiswick, W.

**LOCUM-TENENS**.—Pharmacist now booking engagements; good references. Details and dates to "Phenol" (w/1) Office of this Paper.

**ASSISTANT**; 15 years' experience; Dispensing, Photo, etc.; unqualified; references. "G. F. T., Blencogo, Dinerth Road, Colwyn Bay.

**LADY** Dispenser (Hall qualification) desires post with a Doctor; permanency; good testimonials. Nurse Smith, 91 Vassall Road, Brixton, S.W.

**PART-TIME**; one day weekly and other times by arrangement; unqualified; experienced; Photography; windows, books, etc. 66/17, Office of this Paper.

**CHEMIST'S** or Doctor's Housekeeper; 10 years in last situation; highly recommended; country preferred. Apply, Tiede, 33 Granby Street, Liverpool.

**MANAGER**, Senior, Locum; qualified; 39; good references; experienced; disengaged. "T., Laurel Cottage, Stamford Brook Road, Hammersmith.

**ADVERTISER** (29), all-round experience, used to taking charge, seeks situation; good references; moderate salary. "P., 76 Harcourt Road, West Ham.

**AN** Assistant of good address; 4 years' Harrogate experience; Light Dispensing and Photography; £1 5s. outdoors, indoors 10s. Apply, 66/39, Office of this Paper.

**BRANCH** Manager or Senior; outdoors; near London preferred; qualified; 26; 7½ years' West-end and other experience. Newson, Uphampton, Shobdon, Herefordshire.

**UNQUALIFIED**; 30; thoroughly experienced; London and provincial; good-class Dispensing and Photography; disengaged. Smyth, 49 Aldebert Terrace, S.W.

**ASSISTANT**; 29; tall; unqualified; single; competent; good all-round experience; up-to-date; Photography; outdoors; now disengaged. "Amidol," Rock House, Clevedon, Somerset.

**36**; Assistant or management where qualification is not essential; capable, reliable; now managing; moderate salary; married; disengaged July 1. "S., 5 King Street, Gillingham.

**ASSISTANT** or Manager; 35; 50-mile radius of Stockport preferred; married; abstainer; reasonable hours; personal interview; disengaged. Apply, "Pharmacist," 29 Chestergate, Stockport.

**DISENGAGED**; reliable Assistant; 49; single; permanent or otherwise; good General experience; well recommended; abstainer; unqualified. "Energetic," 5 Beaconsfield Cottages, Hillingdon Heath, Middlesex.

**ADVERTISER** (aged 24) desires re-engagement as Photographic Chemist's Assistant or to Manage Photographie department; able to assist in Chemist's Retail business; excellent reference. W. S. Andrews, 11 Mount Sion, Tunbridge Wells.



# SITUATIONS WANTED (continued).

**HOSPITAL** Locum; qualified; good references. Irving, 116a New Kent Road, London.

**JUNIOR**; 20; disengaged 8th inst.; Photography. Goulden, 87 Brockley Road, S.E.

**LOCUM**; qualified; 28; highest references and experience. "B.," 6 Arthur Street, Loughborough.

**DISENGAGED**; unqualified; several years' experience. R. M. Lelean, 11 Princess Road, Leicester.

**UNQUALIFIED**; 36; Prescriber, Extractor; good references. Foster, 125 Catherine Street, Doncaster.

**MANAGER** or Institution; Hall and Minor; Photo, Optical; pushing and active; abstainer. "Zox" (71/9), Office of this Paper.

**DISPENSER** to Doctor; disengaged morning and afternoon; excellent references. Stovell, 4 Handforth Road, S.W.

**LADY** Dispenser disengaged; Locum or permanent; qualified; good testimonials. Apply, 67/16, Office of this Paper.

**MANAGER**, Locum, or Assistant; disengaged; abstainer; 36. 2 Warwick Mansions, Lower Richmond Road, Putney.

**DISENGAGED**; unqualified; 32; able to take charge; excellent references. "W.," 21 Vanderhilt Road, Earlsfield, S.W.

**QUALIFIED**; permanent; Locum, or relief; Extractor; experienced; disengaged. James, 24 Arthur Square, Commercial Road, E.

**JUNIOR**; 21; good experience; Photography and Dispensing; good references; Liverpool preferred; outdoors. 70/22, Office of this Paper.

**UNQUALIFIED**; 21; Counter and Dispensing; abstainer; good references; disengaged 12th; London preferred. "C.," 41 Burwash Road, Plumstead.

**ASSISTANT**; unqualified; single; Prescriber, Extractor, Post-office work; Midlands or Yorkshire preferred. "Spes" (67/18), Office of this Paper.

**LOCUM** or Part-time; qualified; active, obliging; abstainer; Fridays and Saturdays whole days and any morning free. "Borax," 535 Holloway Road, N.

**UNQUALIFIED**; good Dispensing, Retail, and Photographic experience; good references; Liverpool or district preferred. "S.," 46 Talbot Street, Southport.

**LOCUM**; disengaged 14th inst.; or a permanency as Branch Manager; varied experience; middle age; active; single. "Cortex," 155 London Road, Croydon.

**COMPETENT** Assistant; 28; thoroughly reliable; smart Dispenser, able Salesman, good Window-dresser; Photography. "Camphor" (70/24), Office of this Paper.

**CAPABLE** Dispensing Assistant; 28; single; best experience; smart Salesman and Window-dresser; Photography; excellent references. "H. A. N.," 3 Norman Road, St. Leonards, Sussex.

## WHOLESALE.

**SITUATION** required; 10 years' all-round experience; aged 30. 69/7, Office of this Paper.

**AS** Clerk; young man requires situation; good experience; excellent references. 66/35, Office of this Paper.

**TRAVELLER** or Clerk; good commercial experience and connection; highest references. 66/16, Office of this Paper.

**ASSISTANT** (apprenticed) wants situation; Wets or Drys; age 29; good reference. "T.," 90 Davenport Road, Catford.

**REPRESENTATIVE**, extensive connection among Chemists, provinces and Midlands, seeks re-engagement; age 34. 64/25, Office of this Paper.

**YOUNG** gentleman (19), well educated, desires engagement; any capacity; 3 years' experience in Retail Dispensing; disengaged. 68/19, Office of this Paper.

**TRAVELLER**, good connection London, South, and West of England and South Wales, desires a change; excellent references. 65/24, Office of this Paper.

**GENTLEMAN**, with good experience and connection amongst Doctors, Institutions, etc., would Represent Drug House on commission basis and expenses. Address, 59/027, Office of this Paper.

**GENTLEMAN** desires Agency for high-class Specialities or Proprietaries for Doctors; good house essential; part expenses and commission. Address, "West of England" (66/21), Office of this Paper.

**BOOKKEEPER** and Cashier—Lady desires re-engagement; London; Wholesale; 7 years in trade; age 25 years; used to Superintending office staff; excellent references. Apply, 66/18, Office of this Paper.

**MANUFACTURING** Chemist, F.C.S., London experience, is open to engagement in Wholesale Druggist's Laboratory; practical knowledge of Drug Standardising and Analysis, with general knowledge of the trade. 65/39, Office of this Paper.

**TRAVELLER** calling on Chemists and Stores in North of England and part of Scotland requires good Side-line, not clashing with Toilet-soaps and Skin-preparations, on part expense and commission basis. Address, "North" (67/8), Office of this Paper.

**TRAVELLER**, qualified, first-class connection with Chemists, all 1 counties south of Birmingham, is open to treat for one or two additional commissions; substantial firms only entertained; one good line preferred. "Experience" (68/18), Office of this Paper.

## MISCELLANEOUS.

**MCADAM & TUCKNISS**, Sharedealers, 30 Tranquil Vale, Blackheath, S.E. Telephone 81A Lee Green.

**SHARES FOR SALE** (free of commission, subject).—20 Brunner Mond, 103s. 1½d.; 100 Bovril Deferred, 5s. 6d.; 50 E. Cook £10 Prefrs., £6 11s. 6d.; 50 Evans Lescher Prefrs., 103s. 9d.; 200 Ilford, 13s. 1½d.

**WANTED** (subject).—100 C. Ash Ordinary, 27s. 6d. x.d.; 100 Camwal Prefrs. 6s. 3d.; 205 Ordinary 1s., 4 Debentures £34; 16 Virol, 6s.

List of shares for sale and wanted sent free on application. Bankers, London and County. Established 1898.

**CHEMISTS' SHOP-FITTINGS (SECOND-HAND)**.—Ranges mahogany drawers, with bevelled-edge glass labels and on-glass knobs, shelving above, lockers below; mahogany dispensing-screens, counters with glass-case fronts, wall-cases, bent-front and flat-top counter-cases, counter-desks, tooth-brush cases, complete shop-rounds, etc.; every requisite for chemists; extensive stock to select from at extremely low prices; practical men sent to all parts; illustrated catalogues and estimates free. **MATTHEWS, CHEMISTS' FITTER**, 14 and 16 MANCHESTER STREET, LIVERPOOL.

**WE HAVE WHAT YOU REQUIRE**, Drug Fittings, Counters, Wall-cases, Dispensing-screens, Perfume-cases, etc., in almost all sizes; second-hand; condition first-class; prices reasonable. Write for sketches and details giving approximate sizes, or call and inspect. **RUDDUCK & CO.**, 262 OLD STREET, E.C.

**COMPLETE FITTINGS** for SHOP (in excellent condition, as good as new).—12-ft. drug-fitting, drawers, lockers, shelving, and cornice; 6-ft. wallcase in two heights; 6-ft. screen, mirror centre, cases on each side, counter under; 8-ft. serving-counter; perfume case and desk; counter case; £32 10s. complete. **PHILIP JOSEPHS & SONS**, 93 Old Street, London, E.C.

**TWO APPRENTICES, JUNIORS**, etc.—If you wish to pass the Preliminary quickly and with little trouble, write to Mr. Charles Harker, who will coach you by post; thorough systematic teaching; numerous successes in 3 and 6 months; special attention given to those of neglected education. 85 per cent. recent successes. Terms very moderate. Charles Harker, 239 Chapter Road, Criklewood, London, N.W.

**WINDOW-FITTINGS (Second-hand)**.—3 rows plate-glass shelves, with fittings complete, 3 ft. long 45s., 6 ft. 85s., 8 ft. 110s.; 6-ft. upright dispensing-counter, mirror centre, £8, upright counter-case, 3 ft. by 2 ft. by 2 ft., £5; 2 2-gal. swan-neck carboys, 39s.; 12-ft. side fittings, lockers, drawers, shelving and cornice, £12; wall-cases, 6 ft., £8; desk and case, £2; 8-ft. counter-case front, £5 10s. Send for list, Treble & Co., Complete Chemists' Fitters, 3 Great Tower Street, London, E.C.



**POISONS SCHEDULE**, according to the New Act, reprinted from THE CHEMIST AND DRUGGIST, with a supplementary list of admixtures, preparations, and other articles brought within the Schedule. On a card (Schedule in front, list at the back) to hang up; price 6d., post free, from the Office of the C. & D., 42 Cannon Street, London, E.C.; or at the published price from the leading Wholesale houses.

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A **TWENTY-FOUR** page booklet showing the adult doses in ordinary cases of the principal medicinal agents, with metric equivalents for dispensing and a complete table of atomic weights, comprising the B.P. figures and the International Committee's latest pronouncements (O=16 and H=1). The booklet measures 4 in. by 2½ in., and can be carried in the vest pocket. To be obtained from THE CHEMIST AND DRUGGIST (Book Department), 42 Cannon Street, London, E.C., for **THREE PENNY STAMPS PER COPY, POST FREE.**

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should be the mainstay of your business. Are they? Are you perfectly satisfied with the sales of the same? Do you wish to increase them? If so, write for copy of Booklet, "How to Increase Your Business," which shows how you are able to do so, and prove to the public that you are the most up-to-date Pharmacist in your district. Booklet sent post free on receipt of p.c. to any Pharmacist.

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**BERNARD SLACK, Princes Chambers, WOLVERHAMPTON.**

## Exchange Column—Bargains.

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#### APPARATUS.

FOR sale, Maw's box dispensing-scales, turn with 1 gr., price 12s. 6d.; also ebonyised marble-top counter-scales, to weigh 4 lb., price 12s. 6d.; both scales stamped. "S. S.," 436 High Road, Streatham Common, S.W.

#### BOOKS AND PERIODICALS.

P.J.F. 1904, as new, post free 5s. PRATT, Serlo Road, Gloucester. FORTY volumes C. & D., bound in stiff cloth, 1878 to 1901. Offers for whole or part. PRATT, Serlo Road, Gloucester.

"C. & D. Jubilee"; great curiosity; first 12 numbers in original folio; what offers? MARTIN, 40 London Road, Brighton.

BOOKS.—Nos. I. to XIV. vols. "Journal Society Chemical Industry," bound half-calf, cloth sides; also Vols. XV. to XVIII. in parts, complete £10; 3 vols. Allen's "Commercial Organic Analysis," 25s.; Blyth's "Foods, Composition and Analysis," 8s.; Rose and Schorlmer's "Chemistry," 2 vols., 19s.; and others. CAMMACK, 34 Wolsley Road, St. Helens, Lancashire.

#### DENTAL.

SIXTEEN teeth-forceps and 24 impression-trays. "EXTRACTOR," 540 Caledonian Road, N.

ARTIFICIAL teeth (show-case specimens) for disposal. "DENTAL," 34 Trinity Street, Boston.

ASH'S vulcaniser gauge and thermometer. lathe, vice, for disposal. Particulars, "DENTIST," 95 Walsworth Road, Hitchin.

#### DRUGS AND CHEMICALS.

QUINETUM.—620 oz. to dispose of. Offers to 64/3, Office of this Paper.

#### FORMULÆ.

BOOT-POLISHES, black, brown; formulæ for sale. FRANCE, 42 Varsity Road, London.

FORMULA for liq. dental Rav. et buchu c. cubebæ; cost £5; price 5s. "RELIABLE," 72 Grosvenor Road, Twickenham.

SCIENTIFIC toilet-cream; inseparable, non-greasy, antiseptic; beautiful preparation; feeds, softens, heals, whitens the skin; 3s. 6d. DODDS, Crumlin, Antrim.

#### OPTICAL AND PHOTOGRAPHIC.

QUANTITY photographic and optical sundries. Details free on receipt of card, PRATT, Serlo Road, Gloucester.

OPTICAL trial-case. 56 pairs spheres, 33½ cys., 8 prisms, 2 trial-frames, stenopæ slit and C.; cost £12 12s.; £7 10s. carriage paid. 69/40, Office of this Paper.

### PROPRIETARY ARTICLES.

WHAT offers?—1 gross Ozonia (1s.). 65/13, Office of this Paper.

#### SHARES.

SHARES for Sale. See page 68.

TEN Evans Lescher Preference; will accept 101s. 9d. for quick sale. Lowe, "Glenridding," Beechfield Avenue, Blackpool.

#### SHOP FITTINGS.

FOR sale, 4 show carboys, 1 specic-jar; in perfect condition; what offers? 38 Bath Road, Chapel Ash, Wolverhampton.

TWO mahogany cases, 24 in. (Maw's 2748), by Treble, 20s. each; 2751, 13 in., 21s.; till, carboys, rounds, drawers, etc. 1 High Street, Romford.

FOR sale, 4 perfect pear-shaped carboys, capacity nearly 8 gal., height 36 in., cut stoppers; 3 specic-jars, height 32 in., handsome gilt crests, labels, and tops, one cracked but riveted and intact; all on painted wood stands. KIRKLAND, Chemist, Crickhowell.

#### MISCELLANEOUS.

TWO No. 3 bath cabinets; new; offers wanted. MINCHIN, Chemist, Gloucester.

FOR sale, 12 gross earthenware furniture-polish jars, to hold 8 oz.; part or lot. Apply, 64/7, Office of this Paper.

TWENTY-TWO C. & D. Diaries, good condition, from 1882, offers; 21s. Taquta automatic camera, nearly new, half-price. "BRUNO," 141 St. James's Street, Burnley.

PETROLEUM-OIL measuring apparatus, 60 and 150 gal. oil cisterns, tooth forceps, photo-mounts; cinemato films, 2,000 ft. WARBURTON, Pharmacist, Farnworth, Bolton.

DENTAL forceps (plated); books, Harris' "Principles," etc.; disarticulated skull; camera, 9½ by 8½, aplanat lens, slides; medical battery; bicycle; bargains. HICKMAN, 5 Abbotts Road, Southall.

¼-GAL. tincture-press, perfect condition, Maw's fig. 1895; 1 bell metal mortar, about 56 lb.; 1 Becker's balance and weights, perfect condition; a few dozen Leath & Ross's homeopathic pills and tinctures, assorted. Apply, JOHN LLEWELLYN, Cowbridge.

#### WANTED.

DENTAL instruments for gold fillings. "DENTAL," 1 St. Leonard's Road, Northampton.

MORTON'S ophthalmoscope; second-hand; latest pattern. T. WILLIAMS, London Hospital, E.

30-GRAIN suppository-mould; also quinine pessary-mould. State size, "T." (70/13), Office of this Paper.

GOOD optician's trial-case; also pill-machine; large compo mortar; cheap, London. 70/17, Office of this Paper.

MINOR, Major, Chemists' books.—Send prepaid for valuation; cash offers per return. GOWER, Bookseller, Waterloo, Liverpool.









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IF SO, IT WILL PAY YOU TO  
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Dr. B. H. PAUL, Ph.D., F.I.C., F.C.S., the eminent Quinologist, has periodically examined VIBRONA since its first introduction in 1895, and the following extract from his last REPORT, covering a period of no less than fourteen years, speaks for itself.—

*Vibrona*

Having, since the introduction of Vibrona, in 1895, periodically examined samples of it, obtained from independent sources unknown to the proprietors, I am able, from the results obtained, to state that this preparation has uniformly maintained the high standard of strength and quality indicated in my original report and that it is, therefore, in this respect a preparation justly entitled to the Confidence of the Medical Profession.

3<sup>rd</sup> May 1909.

*B. H. Paul*

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## INDEX TO ADVERTISEMENTS IN THIS ISSUE.

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BRANCH OFFICES: MELBOURNE, SYDNEY, AND ADELAIDE, AUSTRALIA.

Page	Page	Page	Page
Aerators, Ltd. .... 20	Darton, F., & Co. .... 27	Kay Bros., Ltd. .... 49	Robinson & Sons, Ltd. .... 47
Allcock's Plasters .... 46	Davis, J. M., & Sons .... 44	Kent, G. B., & Sons, Ltd. .... 26	Robinson, B., & Co., Ltd. .... 53
Allen, Stafford, & Sons, Ltd. .... 40	Day & Sons (Crewe), Ltd. .... 42 & 54	Kingsley Hotel .... 23	Rowland, A., & Sons .... 15
..... <i>Cover</i>	Degen, F. A. .... 26	Lambert Pharmacal Co. .... 30	Sanford & Son .... 30
Alliance Drug & Chemical Co. .... 41	Denoual & Co. .... 19	Lange's Successors .... 48	Sangers' .... 28
Anglo-American Drug Co. .... 36	Detsinyi, F. .... 51	Leslies, Ltd. .... 50	Sanitas Co., Ltd. .... <i>Text</i> 860
Asche, C. F., & Co. .... 40	Dralle, G. .... 17	Levermore, A., & Co. .... 50	Schimmel & Co. .... 39
Ashton & Parsons, Ltd. .... 55	Erasmio Co., Ltd. .... 18	Liverpool School of Pharmacy .... 23	Schutze, F., & Co. .... 51
Auto-Strop Safety Razor Co., Ltd. .... 56	Estes, E. B., & Sons .... 13	Lloyd, T. Howard, & Co. .... <i>Cover</i>	Shirley Bros., Ltd. .... 19
	Eucryl, Ltd. .... 16	Lofthouse & Saltmer .... 22	Singleton & Cole, Ltd. .... 50
	Express Developing Co. .... 27	London College of Chemistry .... 23	Smith, J. H., & Co. .... 48
Bailey, W. H., & Son .... 46		McKesson & Robbins .... 14	Smith, T. & H., Ltd. .... 39
Barnett & Foster .... 52	Fairechild Bros. & Foster .... <i>Cover</i>	Maw, S., Son & Sons .... <i>Cover</i>	Solazzi .... 22
Bath and West of England College of Pharmacy .... 23	Fentiman, A. G. .... 50	Mawson & Co. .... 50	South London School of Pharmacy .... 23
Beatson & Co. .... 27	Fentiman, A. J., & Co. .... 51	Menley & James .... 22	Southall Bros. & Barclay, Ltd. .... 3 & 51
Beecham, T. .... 40	Fink, F., & Co. .... 50	Miller, A., & Co., Ltd. .... 52	Squire & Sons .... <i>Cover</i>
Beiersdorf, P., & Co. .... 47	Fletcher, Fletcher & Co., Ltd. .... 860	Mumford, G. S. .... <i>Text</i> 860	Stevens, P. A. .... 50
Berdoe & Fish .... <i>Col. Supp.</i>	Flugel & Co. .... 19		Stipendium Stopper Co. .... 24
Bewley & Draper, Ltd. .... <i>Cover</i>	Frowein, C. .... 49	National Union of Mineral Water Manufacturers' Associations, Ltd. .... <i>Text</i> 860	Strong, Christy .... 49
Bidwell, Bidwell & Co. .... 16	Gaasch, J. B. .... 51	Natural Food Co., Ltd. .... 53	Taylor, F. H., & Sons .... 45
Bishop, A., Ltd. .... 35	Gledhill, G. H., & Sons, Ltd. .... 24	Naumann, W. .... 18	Thermos Flask .... 21
Boehringer, C. F., & Soehne .... 39	Giles & Co. .... 36	Nitsche & Günther .... 25	Tilbury & Co. .... 16
Boehringer, C. H., Sohn .... 38	Grapelax, Ltd. .... 50	North of England School .... 23	To-Kalon Mfg. Co. .... 14
Bond's Marking Ink .... 29	Grimble & Co., Ltd. .... <i>Text</i> 860	Norwich Crepe Co. (1856), Ltd. .... 51	Toogood, W., Ltd. .... 46
Bonteheff & Kidoff .... 51			Townsend, J., & Son .... 12
Box, W. H. .... 36	Halder, E. C. .... 50	O'Brien, T. .... 26	Tunbridge & Wright .... 49
Brett & Co. .... <i>Col. Supp.</i>	Halifax Photographic Co. .... 26	Oldfield, Pattinson & Co. .... 11	Tye, J., & Son .... 50
Bristol-Myers Co. .... 53	Harrison & Waide .... 12	O'Neil, Zetts & Co. .... 16	Vichy Water .... 52
British Drug Houses, Ltd. .... 34	Haywood, J. H. .... 44	Paine & Co., Ltd. .... 42	Viscose Development Co. .... 29
British Ring Syndicate .... 12	Heala Manfg. Co. .... 18	Parke, Davis & Co. .... 29	
Bronnley & Co., Ltd. .... 18 & 31	Hetherington, R. D. D. .... 19	Pill, Tablet, and Capsule Alliance .... 40	Wander, A. .... 38
Brown & Blackburn .... 50	Hewlett, C. J., & Son, Ltd. .... 30	Potter & Birks, Ltd. .... <i>Text</i> 860	Wardale & Co. .... 51
Burge, Warren & Ridgley, Ltd. .... 47	Hercules Meat Juice Press .... 29	Premier Oil Extracting Mills, Ltd. .... 42	Warrick Bros. .... <i>Text</i> 860
Burrough, J., Ltd. .... <i>Text</i> 860	Horner & Sons .... 30	Preston's Liverpool Distillery Co. .... 14	Washington Chemical Co., Ltd. .... <i>Cover</i>
Burroughs Wellcome & Co. .... 33	Howards & Sons, Ltd. .... 37	Price's Patent Candle Co., Ltd. .... 17	Whitaker & Co. .... 15
Burt, C. J. .... 36	Howarth & Fair .... 30		Wilson Veterinary Medicine Manfg. Co., Ltd. .... 50
	Hughes, E. Griffiths .... 50	Raphaels, Ltd. .... 24	Woolley, J., Sons & Co., Ltd. .... <i>Cover</i>
Cadbury Bros. .... <i>Cover</i>	Huntley, Boorne & Stevens, Ltd. .... 26	Rendell, W. J. .... 44	Yardley & Co., Ltd. .... 31
Callard & Co. .... 50	International Chem. Co. .... 51	Roberts, Cornford & Co. .... 15	Young's Absorbine .... 30
Chameleon Oil Co. .... 38	Isaacs, I., & Co. .... 26	Roberts, R., & Sons .... 53	Zotos, Ltd. .... 39
Cardinal Manfg. Co., Ltd. .... 40	Jackson, E. E. .... 36		
Chemists' Co-operative Wholesale .... 43	John Bull Hair Food .... 17		
Christy, T., & Co. .... 51	Josephs, Philip, & Sons, Ltd. .... 4		
Churchill, J., & A. .... 23			
Coleman & Co., Ltd. .... 19			
Condy & Mitchell, Ltd. .... 35			
Cook, E., & Co., Ltd. .... 6			
Cox, A. H., & Co., Ltd. .... <i>Cover</i>			
Crown Chemical Works .... 38			

## THE BUYERS' GUIDE.

In this section, under appropriate headings, are given the names of firms advertising in this or other issues of the month. No charge is made to advertisers for the insertion of their names, but only those who have contracts current for advertising in this journal are mentioned. The headings refer generally to the classes of goods actually advertised, but this is not a detailed Guide such as appears in "The Chemists' and Druggists' Diary." Inquiries addressed to "The Chemist and Druggist," 42 Cannon Street, London, E.C., regarding articles not appearing in these pages will receive prompt attention.

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Wright, Layman & Umney



**ELASTIC HOSIERY**

Ayrton, Saunders & Co., Ltd.  
Berliner, Arthur  
Burge, Warren & Ridgley, Ltd.  
Haywood, J. H.  
Jackson, Röhrs, & Co.  
Maw, S., Son & Sons  
Wood, Vincent

**EMERY AND CLOTH**

Oakey, J., & Sons, Ltd.

**EMULSIONS, COD - LIVER OIL, ETC.**

Allen & Hanburys, Ltd.  
Ayrton, Saunders & Co.  
Baiss Bros. & Stevenson, Ltd.  
Blackie, R.  
Boulton, J., & Co.  
British Drug Houses, Ltd.  
Evans Sons Lescher & Wehh, Ltd.  
Faulding, F. H., & Co.  
Harker, Stagg & Morgan, Ltd.  
Lorimer & Co., Ltd.  
Oldfield, Pattinson & Co.  
Scott & Bowne, Ltd.  
Parke, Davis & Co.  
Woolley, Jas. Sons, & Co.  
Woolleys, Ltd.

**EPSOM SALTS**

Howards & Sons, Ltd.

**ESSENCES, CONCRETE**

Lautier Fils  
Murray, O., & Co., Ltd.  
Roure-Bertrand fils  
Schmoller & Bompard

**ESSENCES, SOL. AND FRUIT**

Alliance Drug & Chem. Co.  
Baiss Bros. & Stevenson, Ltd.  
Barnett & Foster  
Boake (A.), Roberts & Co., Ltd.  
Bush, W. J., & Co., Ltd.  
Cresp-Martineng  
Evans Sons Lescher & Webb  
Hay, Wm., Ltd.  
Lautier Fils  
London Essence Co.  
Lorimer & Co., Ltd.  
Newball & Mason  
Roure-Bertrand fils  
Spencer, J., Son & Co.  
Stevenson & Howell, Ltd.  
Zimmermann, A. & M.

**ENEMAS**

Bailey, W. H., & Son  
Burge, Warren & Ridgley  
David Rubber Co.  
Hay, J. B., & Co.  
Ingram, J. G., & Son  
Maw, S., Son & Sons  
Toogood, W., Ltd.  
Warne, W., & Co., Ltd.

**ETHERS**

Baiss Bros. & Stevenson, Ltd.  
Macfarlan, J. F., & Co.  
May & Baker, Ltd.  
Tyrer, T., & Co., Ltd.  
White, A., & Sons

**EUCALYPTUS OIL**

British Drug Houses, Ltd.  
Baiss Bros. & Stevenson, Ltd.

**EXTRACT OF HERBS**

Newhall & Mason  
Potter & Clarke

**EXTRACTS (MEDICINAL)**

Allen, Stafford, & Sons, Ltd.  
Chemists' Co-operative Wholesale  
Hewlett, C. J., & Son  
Parke, Davis & Co.  
Ransom, W., & Son  
(See also WHOLESALE DRUGGISTS)

**FEEDING BOTTLES**

Brefitt, E., & Co., Ltd.  
Fecher, M. J.  
Hovenden, R., & Sons, Ltd.  
Kilner Bros., Ltd.  
Maw, S., Son & Sons  
Sangers'  
Savory & Moore, Ltd.  
Southall Bros. & Barclay, Ltd.  
Taylor, F. H., & Sons

**FILLING MACHINES**

Roberts' Pat. Fill. Machine Co.

**FILTERS (WATER)**

Berkfeld Filter Co., Ltd.

**FLYCATCHERS**

Alabastine Co. (British), Ltd.  
Ford, Shapland & Co.  
Frowein, O.  
Kay Bros., Ltd.  
Lange's, H., Successors  
Smith, J. H., & Co.  
Strong, Christy

**FORMALDEHYDE**

Bart, Boulton & Haywood

**FOODS, INFANTS'**

Allen & Hanburys, Ltd.  
Benger's Food, Ltd.  
Frame Food Co., Ltd.  
Lofthouse & Saltmer  
Natural Food Co., Ltd.  
Willows, Francis B. & T.

**FOODS, SPECIAL**

Allen & Hanburys, Ltd.  
Beuger's Food, Ltd.  
Braid & Co., Ltd.  
Burt, C. J.  
Callard & Co.  
Fairchild Bros. & Foster  
Frame Food Co., Ltd.  
Menley & James, Ltd.  
Miol Manufacturing Co.  
Natural Food Co., Ltd.  
Wander, A.

**FRUIT CRYSTALS**

Aerators, Ltd.

**FULLER'S EARTH**

Mumford, G. S., & Sons

**FUMIGATORS**

Sanitas Co., Ltd.

**GELATIN AND GLUE**

Boehm, F., Ltd.

**GLAUBER'S SALT**

Bramwell, E., & Son  
Howards & Sons, Ltd.

**GOLD PAINT**

Judson, D., & Son

**HAIR PREPARATIONS**

Capsuloid Co., Ltd.  
Chesebrough Manfg. Co.  
Dralle, Georg.  
Edwards' "Harlene" Co.  
Harker, Stagg & Morgan  
Herpicide Co.  
John Bull Hair Food  
John Strange Winter  
Rohare's Aureoline  
Rowland, A., & Sons  
Woolleys, Ltd.

**GLYCERIN**

Boehm, F., Ltd.  
Price's Patent Candle Co.

**GRINDERS**

Allen, Stafford, & Sons, Ltd.  
Goodall, Backhouse & Co.  
Willows, Francis B. & T.

**HAT DYES**

Whitaker & Co.

**HAT RENOVATORS**

Christy, T., & Co.

**HEATING FLASKS**

Gutmann, A. E., & Co.

**HERBS**

Potter & Clarke

**HOMOEOPATHIC MEDICINES**

Ashton & Parsons, Ltd.  
Keene & Ashwell, Ltd.  
Leath & Rosa

**HOT-WATER BOTTLES**

Berliner, Arthur  
Burge, Warren & Ridgley  
Maw, S., Son & Sons  
May, Roberts & Co.  
Southall Bros. & Barclay  
Wood, Vincent

**HOTELS**

Esmond Hotel  
Kingsley Hotel  
Thackeray Hotel

**HYDROGEN PEROXIDE**

May & Baker, Ltd.  
Sanitas Co., Ltd.  
Tyrer, T., & Co., Ltd.

**HYPOPHOSPHITES**

May & Baker, Ltd.  
Merck, E.  
Tyrer, T., & Co., Ltd.

**INHALERS**

Christy, T., & Co.  
Fecher, M. J.  
Sangers'  
Taylor, F. H., & Sons

**INK**

Bewley & Draper, Ltd.  
Hickisson, A. B.

**INSECT POWDER**

Boehm, F., Ltd.  
Smith, B. A., & Co.

**INSECTICIDES**

Aome Chemical Co., Ltd.  
Smith, B. A., & Co.  
Tomlinson & Hayward, Ltd.  
Woolleys, Ltd.

**IODINE AND IODIDES**

Howards & Sons, Ltd.  
Merck, E.  
Morson, T., & Son

**ITROSYL**

Fletcher, Fletcher & Co.

**JARS AND POTS**

Brefitt, E., & Co., Ltd.  
Cook, A., & Co.  
Johansen & Jorgensen, Ltd.  
Kilner Bros., Ltd.  
Lang, Jules, & Son  
Maw, S., Son & Sons  
Pothe, H., & Co.  
Reuter, R. J.  
Stipendum Stopper Co.  
Taylor, F. H., & Sons  
Toogood, W., Ltd.

**LACTIC FERMENTS**

Allen & Hanburys, Ltd.  
Cox, Arthur H., & Co., Ltd.  
Martindale, W.  
Parke Davis & Co.  
Wilcox, Jozeau & Co.

**LAMPS, DISINFECTING**

Roberts, Cornford & Co.

**LANOLINE**

Burroughs Wellcome & Co.  
Christy, T., & Co.  
Sangers'

**LARD**

Chemists' Co-operative Wholesale  
Ewen, J., & Sons

**LIME AND JUICE CORDIAL**

Evans Sons Lescher & Wehh  
Goodall, Backhouse & Co.  
Idris & Co., Ltd.

**LINSEED, CRUSHED, ETC.**

Allen, Stafford, & Sons  
Mumford, G. S., & Sons

**LINTS**

Vernon & Co., Ltd.

**LIQUORICE JUICE**

Boehm, F., Ltd.  
British Drug Houses, Ltd.  
Evans, Gray & Hood  
Evans Sons Lescher & Wehh, Ltd.  
Horner & Sons  
Jackson, E. E.  
Mumford, G. S., & Sons

**LIQUORS, CONC., ETC.**

Allen, Stafford, & Sons, Ltd.  
Fletcher & Fletcher & Co.  
Hewlett, C. J., & Son  
Robinson, B., & Co.

**LITHIA SALTS**

British Drug Houses, Ltd.  
May & Baker, Ltd.  
Merck, E.

**LOOFAHS**

Cresswell Bros. & Schmits

**LOZENGES**

Allen & Hanburys, Ltd.  
Cox, A. H., & Co., Ltd.  
Denoual, J., & Co.  
Jackson, E. E.  
Potter & Clarke  
Raines & Co.  
Warrick Bros.

**MACHINERY, PHARMACAL**

Allen & Hanburys, Ltd.  
Bennett, E., & Son, Ltd.  
Bennett, Sons & Shears, Ltd.  
Brown & Son  
Fecher, M. J.  
Gardner, Wm., & Sons, Ltd.  
"Hercules" Meat Juice Press  
Pindar, J. W., & Co.  
Roberts' Patent Filling Machine  
Co.  
Smith, B. A., & Co.  
Stokes, F. J., Machine Co.  
Thompson & Capper (Stokes)  
Wilkinson, S. W., & Co.

**MAGNESIA AND ITS SALTS**

Henry, T. & W.  
Howards & Sons, Ltd.  
May & Baker, Ltd.  
Washington Chemical Co.

**MAILING CASES**

May, Roberts & Co.

**MALT EXTRACT AND PREPS.**

Allen & Hanburys, Ltd.  
Baiss Bros. & Stevenson, Ltd.  
Blackie, R.  
British Dia Malt Co.  
Burroughs Wellcome & Co.  
Evans Sons Lescher & Wehh  
Hewlett, C. J., & Son  
Lorimer & Co., Ltd.  
Oppenheimer, Son & Co., Ltd.  
Paine & Co., Ltd.  
Southall Bros. & Barclay, Ltd.  
Squire & Sons  
Woolley, Jas., Sons & Co., Ltd.  
Wright, Layman & Umney

**MARKING INK**

Hickisson, A. (Bond's)

**MEAT EXTRACT**

Armour & Co., Ltd.  
Brand & Co., Ltd.

**MEDICINE CHESTS**

Burroughs Wellcome & Co.  
Keene & Ashwell, Ltd.  
Leath & Rosa  
Lloyd, T. Howard, & Co.  
Parke, Davis & Co.  
**MENTHOL CONES**  
Maw, S., Son & Sons  
Shirley Bros., Ltd.

**MERCURIALS**

Howards & Sons, Ltd.  
May & Baker, Ltd.  
Merck, E.  
Tyrer, T., & Co., Ltd.

**METEOROLOGICAL SETS**

Darton, F. & Co.

**METHYLATED SPIRIT**

Burrough, J., Ltd.  
Preston's Liverpool Distillery  
Randall & Son, Ltd.

**MILK APPARATUS**

Zimmermann, U., & Co.

**MILK BYPRODUCTS**

Casau, Ltd.

**MINERAL WATERS AND SALTS**

Apollinaris Co., Ltd.  
British Drug Houses, Ltd.  
Burrow, W. & J. (Malvern)  
Hughes E. Griffiths  
Ingram & Royle, Ltd.  
Vichy (State Springs)

**NAPHTHAS**

Burt, Boulton & Haywood

**NASAL DOUCHES**

Taylor, F. H., & Sons

**OILS, ESSENTIAL**

Allen, Stafford, & Sons, Ltd.  
Alliance Drug & Chem. Co.  
Baiss Bros. & Stevenson  
Boake (A.), Roberts & Co., Ltd.  
Bush, W. J., & Co., Ltd.  
Chris, Antoine  
Cresp-Martineng  
Evans Sons Lescher & Webb, Ltd.

**OILS, FATTY, ETC.**

Horner & Sons  
Jackson, J., & Co.  
Lautier Fils  
London Essence Co.  
Matthew, Jesse  
Mühlethaler, Th., Ltd.  
Pasquale, S. F. de, & Fratelli  
Poppelreuter, W.  
Ransom, W., & Son  
Roure-Bertrand fils  
Sachse, E., & Co.  
Schimmel & Co.  
Schmoller & Bompard  
Spencer, J., Son & Co.  
Spurway et Cie.  
Stevenson & Howell, Ltd.  
Todd, A. M., Co.  
Wright, Layman & Umney  
Zimmermann, A. & M.

**OILS, MINERAL**

Allen, Stafford & Sons, Ltd.  
Cresp-Martineng  
Price's Patent Candle Co.  
Smith, B. A., & Co.  
Price's Patent Candle Co.  
Wright, Layman & Umney

**ointments**

Blackie, R.  
Chemists' Co-operative Wholesale  
Oldfield, Pattinson & Co.

**OPTICAL GOODS**

Botwright & Grey  
Darton, F., & Co.  
Maw, S., Son & Sons  
Newbery, F., & Sons, Ltd.  
Nitsche & Günther  
Raphael's, Ltd.

**OPTICAL INSTRUCTION**

British Optical Institute

**OTTO OF ROSE**

Bontcheff & Kidoff  
Pappazoglou, D.  
Reitmeyer & Co. (synthetic)  
Seraphimoff, S., & Co.  
Shipkoff & Co.

**PASTILLES**

Allen & Hanburys, Ltd.  
Asche, C. F., & Co.  
Baiss Bros. & Stevenson  
Burroughs Wellcome & Co.  
Denoual, J., & Co.  
Evans Sons Lescher & Wehh  
Warrick Bros.

**PACKED GOODS**

(See WHOLESALE)



**PALATINOLIDS**

Oppenheimer, Sons &amp; Co.

**PATENT AGENT**

Barker, R. W.

**PERFUME MATERIALS**

Bush, W. J., &amp; Co., Ltd.

Chris, Antoine

Compagnie Morana

Oresp-Martineau

Lantier Fils

Mühlethaler, Th., Ltd.

Murray, O., &amp; Co., Ltd.

Schimmel &amp; Co.

Shipkoff &amp; Co.

Spencer, J., Son &amp; Co.

Sparway et Cie.

Treat, H. O., &amp; Co.

Zimmermann, U., &amp; Co.

**PERFUMES**

Allen &amp; Hanbury, Ltd.

Barclay &amp; Sons, Ltd.

Breidenbach &amp; Co.

Bronnley, H., &amp; Co., Ltd.

Bush, W. J., &amp; Co., Ltd.

Christy, T., &amp; Co.

Ohnit, Naef &amp; Co.

Oresp-Martineau

Dralle, Georg.

Erasmic Co., Ltd.

Evans Sons Lescher &amp; Webb, Ltd.

Hewlett, O. J., &amp; Son

Hovenden, R., &amp; Sons, Ltd.

Lescol Perfumery Co.

McCracken, J., &amp; R.

Maw, S., Son &amp; Sons

Newbery, F., &amp; Sons, Ltd.

Piver, L. T.

Quelch, H. O., &amp; Co.

Renter, R. J.

Sonthall Bros. &amp; Barclay

Spencer, J., Son &amp; Co.

Sparway et Cie.

To-Kalon Mfg. Co.

Warrick Bros.

West, T.

Yardley &amp; Co., Ltd.

Zenobia Laboratories

**PESSARIES**

Burge, Warren &amp; Ridgley

Howison &amp; Co., Ltd.

Kendell, W. J.

**PETROLEUM EMULSION**

British Drug Houses, Ltd.

**PETROLEUM JELLY**

Cheesebrough Mfg. Co.

**PHOTO-CHEMICALS**

Boehringer, O. F., &amp; Soehne

Burroughs Wellcome &amp; Co.

Lockyer, J. E.

Merck, E.

**PHOTO-GOODS**

Barclay &amp; Sons, Ltd.

Larton, F., &amp; Co.

Evans Sons Lescher &amp; Webb

Halifax Photographic Co.

Iford, Ltd.

Lennon, Ltd.

May, Roberts &amp; Co.

Murdock, John, &amp; Co.

Newbery, F., &amp; Sons, Ltd.

**PHOTO-ENLARGERS,****PRINTERS, &c.**

Express Developing Co.

Halifax Photographic Co.

**PILL MAKERS**

Allen &amp; Hanbury, Ltd.

Asche, C. F., &amp; Co.

Bishop, Alfred, Ltd.

British Drug Houses, Ltd.

Cox, A. H., &amp; Co., Ltd.

Davies, Sons &amp; Co.

Evans Sons Lescher &amp; Webb, Ltd.

Hewlett, O. J., &amp; Son

Howards &amp; Sons, Ltd.

Lloyd, T. Howard, &amp; Co.

McKesson &amp; Robbins

Parke, Davis &amp; Co.

Pill, Tablet, &amp; Capsule Alliance

Sonthall Bros. &amp; Barclay

Standard Tablet &amp; Pill Co.

Wand Mfg. Co.

Warner, W. R., &amp; Co.

Woolley, J., Sons &amp; Co., Ltd.

**PLASTERS**

Alcock Mfg. Co.

Berliner, Arthur

Beiersdorf, P., &amp; Co.

Dalmas, A. de St., &amp; Co.

Leslies, Ltd.

Maw, S., Son &amp; Sons

Reipert Bros.

**POISON-BOTTLE COVERS**

Boston &amp; Co.

**POLISHES (VARIOUS)**

Bradley &amp; Bourdas

Judson, Daniel, &amp; Son

Oskey, J., &amp; Son, Ltd.

**PROPRIETARY ARTICLES**

American Drug Stores

Anglo-American Drug Co.

Anglo-American Phar. Co., Ltd.

Ashton &amp; Parsons, Ltd.

Atkinson &amp; Barker

Barclay &amp; Sons, Ltd.

Battle, Son &amp; Maltby

Beecham, T.

Beiersdorf, P., &amp; Co.

Bile Bean Mfg. Co.

Box, W. H.

British Drug Houses, Ltd.

Capsuloid Co., Ltd.

Cardinal Mfg. Co., Ltd.

Chameleon Oil Co.

Christy, T., &amp; Co.

Coleman &amp; Co., Ltd.

Congreve, G. T.

Cox, A. H., &amp; Co., Ltd.

Curry, Henry

Daggett &amp; Ramsdell

Daisy, Ltd.

Davenport, J. T., Ltd.

Day &amp; Sons (Crewe), Ltd.

Day, Son &amp; Hewitt

Denonal, J., &amp; Co.

Edwards, W., &amp; Son

Elliman, Sons &amp; Co.

Evans Sons Lescher &amp; Webb

Fandling, F. H., &amp; Co.

Fellows' Syrup

Fennings, Alfred

Ferris &amp; Co.

Fulford, C. E., Ltd.

Giles, H. G., &amp; Co.

Goodall, Backhouse &amp; Co.

Grapelax, Ltd.

Greiff, R. W., &amp; Co.

Guy's Tonic Co.

Heala Manufacturing Co.

Henry, T. &amp; W.

Hovenden, R., &amp; Sons, Ltd.

Hughes, E. Griffiths

Ichthyol Co.

International Chemical Co.

Iron-Ox Rem. Co., Ltd.

Kay Bros., Ltd.

Katzow, S., &amp; Co., Ltd.

Lalor's, Dr., Phosphoryne

Lambert Pharmacal Co.

Lofthouse &amp; Saltmer

Lorimer &amp; Co., Ltd.

May Roberts &amp; Co.

Menley &amp; James, Ltd.

Mol Manufacturing Co.

Newbery, F., &amp; Sons, Ltd.

Odol Chemical Works

Owbridge, W. T., Ltd.

Pedezy Co.

Resinol Chemical Co.

Richards, J. M., &amp; Sons

Rinwel Co.

Sangers'

Savarese's Capsules (Evans)

Schimmel &amp; Co.

Scott &amp; Bowne, Ltd.

Squire &amp; Sons

Standard Tablet &amp; Pill Co.

Stedman's Teething Powders

Thompson &amp; Capper

To-Kalon Mfg. Co.

Tunbridge &amp; Wright

Wilcox, Jozeau &amp; Co.

Zotos, Ltd.

(See also DENTIFRICES and TOILET ARTICLES)

**PRINTERS**

Dudley &amp; Co.

Ford, Shapland &amp; Co.

Harrison &amp; Waide

Smith, W. H., &amp; Son

Townsend, J., &amp; Sons

**PULVELLÆ**

Warrick Bros.

**PULVERETTES**

Oppenheimer, Son &amp; Co., Ltd.

**PUMPS**

Berkfeld Filter Co., Ltd.

**QUININE AND SALTS**

Boehringer, O. F., &amp; Soehne

Howards &amp; Sons, Ltd.

**RAZORS**

Auto-Strop Safety Razor Co.

Hovenden, R., &amp; Sons, Ltd.

**RENNET**

Fullwood, R. J., &amp; Bland

Oldfield, Pattinson &amp; Co.

**RESINS AND RESINOIDS**

Allen, S., &amp; Sons, Ltd.

Allen &amp; Hanbury, Ltd.

Morson, T., &amp; Son

Ransom, W., &amp; Son

Smith, T. &amp; H., Ltd.

**RESPIRATORS**

Zimmer &amp; Co.

**RUBBER GOODS**

Daval Rubber Co.

Burge, Warren &amp; Ridgley, Ltd.

Evans Sons Lescher &amp; Webb, Ltd.

Fecher, M. J.

Galen Mfg. Co.

Haywood, J. H.

Hovenden, R., &amp; Sons, Ltd.

Howison &amp; Co., Ltd.

Ingram, J. G., &amp; Son

Maw, S., Son &amp; Sons

May, Roberts &amp; Co.

Warne, W., &amp; Co., Ltd.

**SACCHARIN**

Saccharin Corporation, Ltd.

**SALICIN**

Macfarlan, J. F., &amp; Co.

Smith, T. &amp; H., Ltd.

**SALICYLATES**

Bayer Co., Ltd.

**SAMPLE CASES**

Keane, Thomas

**SANTONIN**

Smith, B. A., &amp; Co.

**SAPONIN**

Field, C. W.

Sthamer, Dr. R.

**SAUCES**

Goodall, Backhouse &amp; Co.

**SCALE PREPARATIONS**

Morson, T., &amp; Son

**SCRUBBERS**

Langes, H., Successors

**SEA SALT**

Tidman &amp; Son, Ltd.

**SEA-SICKNESS REMEDY**

Zotos, Ltd.

**SELTZOGENES**

Aerators, Ltd.

**SERUMS AND ANTITOXINS**

Allen &amp; Hanbury, Ltd.

Evans Sons Lescher &amp; Webb

Parke, Davis &amp; Co.

Schimmel &amp; Co.

Wilcox, Jozeau &amp; Co.

**SHEEP-DIPS**

Acme Chemical Co., Ltd.

Burt, Boulton &amp; Haywood

Morris Little &amp; Son, Ltd.

Sanitas Co., Ltd.

Tomlinson &amp; Hayward, Ltd.

**SHOP-FITTING**

Ayrton-Graham, Ltd.

Bowling &amp; Son

Cleworth, J.

Evans Sons Lescher &amp; Webb, Ltd.

Josephs, P., &amp; Son

Maw, S., Son &amp; Sons

Mills, H.

Rudduck &amp; Co.

Sangers'

Sonthall Bros. &amp; Barclay, Ltd.

**SOAP MATERIALS**

Chris, Antoine

**SOAPS**

Allen &amp; Hanbury, Ltd.

Armour &amp; Co., Ltd.

Breidenbach &amp; Co.

Bronnley, H., &amp; Co., Ltd.

Cheesebrough Mfg. Co.

Cook, E., &amp; Co., Ltd.

Erasmic Co., Ltd.

Hull Oil Mfg. Co., Ltd.

Lescol Perfumery Co.

Oakley, J., &amp; Son, Ltd.

Pears, A. &amp; F., Ltd.

Price's Patent Candle Co.

Richards, J. M., &amp; Sons

Wright, Layman &amp; Umney

Yardley &amp; Co., Ltd.

**SOAPS, MEDICATED**

Armour &amp; Co., Ltd.

Bronnley, H., &amp; Co., Ltd.

Calvert, F. O., &amp; Co.

Faulding, F. H., &amp; Co.

Lambert Pharm. Co.

Wright, Layman &amp; Umney

**SODA FOUNTAINS**

British Automatic Aerators, Ltd.

**SODIUM BICARBONATE**

Brunner, Mond &amp; Co., Ltd.

Howards &amp; Sons, Ltd.

Mumford, G. S.

**SOOTHERS**

Schutze, F., &amp; Co.

Taylor, F. H., &amp; Sons

**SPARKLETS**

Aerators, Ltd.

**SPECTACLES**

Botwright &amp; Grey

Darton, F., &amp; Co.

Maw, S., Son &amp; Sons

Nitsche &amp; Günther

Raphael's, Ltd.

**SPHYGMOMETERS**

Hicks, J. J.

**SPIRIT OF WINE**

Burrough, J., Ltd.

Preston's Liverpool Distillery

**SPITTING-FLASKS**

Maw, S., Son &amp; Sons

**SPONGE BAGS**



**SYRINGE CASES**

May, Roberts &amp; Co.

**SYRUPS, FRUIT**

Idris &amp; Co., Ltd.

**SYRUPS, MEDICINAL**Chemists' Co-operative Wholesale  
Fellows' Med. Mfg. Co.  
Fletcher, Fletcher & Co.  
Squire & Sons**TABLETS, COMPRESSED**Allen & Hanburys, Ltd.  
Asche, C. F., & Co.  
Ayrton, Saunders & Co.  
Bishop, Alfred, Ltd.  
British Drug Houses, Ltd.  
Cox, A. H., & Co., Ltd.  
Davies, Sons & Co.  
Duncan, Flockhart & Co.  
Evans Sons Lescher & Webb  
Howards & Sons, Ltd.  
Jackson, E. E.  
Lloyd, T. Howard, & Co.  
Martindale, W.  
McKesson & Robbins  
Parke, Davis & Co.  
Pill, Tablet, & Capsule Alliance  
Potter & Clarke  
Standard Tablet & Pill Co.  
Thompson & Capper  
Wand Manufacturing Co.  
Warner, W. R. (Newbery)**TABLOID PRODUCTS**

Burroughs Wellcome &amp; Co.

**TARTARIC ACID**British Drug Houses, Ltd.  
Boehringer, O. H., Sohn**TELEPHONE CAPS**Jeyes' Sanitary Compounds Co.,  
Ltd.**TINFOILS**

Erhardt, H. &amp; Co., Ltd.

**TIN BOX MAKERS**Goodall, Backhouse & Co.  
Huntley, Boorne & Stevens  
Shirley Bros., Ltd.**TOILET PAPER**Ford, Shapland & Co.  
Newbery, F., & Sons, Ltd.  
Townsend, J., & Sons**TOBACCO**

Singleton &amp; Cole, Ltd.

**TOILET ARTICLES**Allen & Hanburys, Ltd.  
Armour & Co., Ltd.  
Auto-Strop Safety Razor Co.  
Beetham, M., & Son  
Berliner, Arthur  
Blackie, R.  
Boulton, J., & Co.  
Breidenbach & Co.  
Bronnley, H., & Co., Ltd.  
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Chesebrough Mfg. Co.  
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Cook, E., & Co., Ltd.  
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Daisy, Ltd.  
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Euoryl, Ltd.  
Harker, Stagg & Morgan  
Hovenden, R., & Sons, Ltd.  
John Bull Hair Food  
John Strange Winter  
Lloyd, A., & Co.  
Lloyd, A. B. (Hovenden)  
Lorimer & Co., Ltd.  
Newbery, F., & Sons, Ltd.  
Odol Chemical Works  
Papier Poudre, Ltd.  
Piver, L. T.  
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Reuter, R. J.  
Richards, J. M., & Sons, Ltd.  
Rowland, A., & Sons  
Sangers'  
Sanitas Co., Ltd.  
Standard Tablet & Pill Co.  
To-Kalon Mfg. Co.  
Toogood, W., Ltd.  
Velvix Toilet Co.  
Woolley, J., Sons & Co., Ltd.**TOOTH STOPPING**

Stevens, P. A.

**TRADE-MARKS AGENTS**Barker, R. W.  
Ford, Shapland & Co.**TRUSSES**Bailey, W. H., & Son  
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Wood, Vincent  
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Evans Sons Lescher & Webb**VALUERS**Alexander, H. P.  
Baker, P. C.  
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Tomlinson &amp; Hayward, Ltd.

**WATERS, CONCENTRATED**Chemists' Co-operative Wholesale  
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Spurway et Cie.**WEED-KILLERS**Acme Chemical Co., Ltd.  
Burt, Boulton & Haywood  
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Alliance Drug & Chem. Co.  
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British Drug Houses, Ltd.  
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Chemists' Co-op. Wholesale  
Evans Sons Lescher & Webb  
Ferris & Co.  
Goodall, Backhouse & Co.  
Harker, Stagg & Morgan  
Hewlett, O. J., & Son  
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Lennon, Ltd.  
Lloyd, T. Howard, & Co.  
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Potter & Clarke  
Raines & Co.  
Sankyo & Co.  
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"OPIUM, MANCHESTER."

A RELIABLE HOUSE FOR  
**All Pharmaceutical Preparations.**CONCENTRATED WATERS.  
CONCENTRATED INFUSIONS.**Syr. Hypophosphites Co. (NEWTON)**ELIXIR TERPINI ET HEROIN COMP.  
THYMOLYPTOL.**Syr. Glycerophosph. Co.**LIQUID EXTRACTS.  
LEVIGATED OINTMENTS.  
ESSENTIAL OILS.**"Silver Churn" Dairy Specialities.***Special Prices to Large Buyers.**Write for List.*

MANCHESTER.



**IMPORTANT NOTICE AND WARNING**

IT has frequently come to our knowledge that certain firms in Birmingham are offering cheap and worthless Anti-Rheumatic Rings to Chemists, and describing them as "Veritas" Rings. We beg to point out that we are the only manufacturers of the "Veritas" Ring.

Proceedings will be immediately taken against anyone selling to the trade or the public Anti-Rheumatic Rings described as the "Veritas," which do not bear the registered Trade Mark V.A.R., and which are not obtained from us. Chemists are warned against the danger of selling this cheap and worthless imitation of our rings, as it will do their trade a great harm.

All Chemists who are desirous of having a nice window show of "Veritas" Rings, should write at once to the sole Proprietors,

**THE BRITISH RING SYNDICATE**

59-61 NEW OXFORD STREET LONDON, W.C.

AND AT BIRMINGHAM.

TELEPHONE NO. : 2799 GERRARD.

**"PHARMACIST"**

Chemists should keep the new title well before the Public.

**PHARMACIST.**

The POISON AND PHARMACY ACT (8 Edw. VII. Ch. 55) confers on the Chemist who has passed the Pharmaceutical Examination the right to the title "Pharmacist."

This is a personal title and cannot be assumed by any Company.

The Proprietor of this establishment has the full qualifications of a

**PHARMACIST.**

Cards, wording as shewn, Red and Black on White, 8 x 4, 4d. each, or post free, 4 for 1/-

Same wording supplied on White Paper, with Red Oxford Border. 11½ x 8½. Prices as Card. •

Also Bills, same size and prices, stating that all Poisonous Substances can be obtained.

Special Labels, Poison Registers, &c., stocked in accordance with New Act.

**JAMES TOWNSEND & SONS,**

Printers for Pharmacists,

EXETER & LONDON.

**Up-to-Date Chemists**

are like other smart Business men. They look out for something good and at a cheap rate. They like the best that money can buy. Consequently they

**BUY PRINTING**

that is calculated to bring the best buyers with the most money to their shops.

**HARRISON & WAIDE**

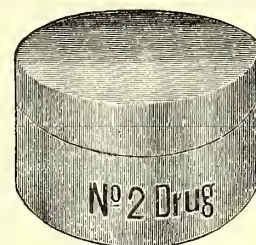
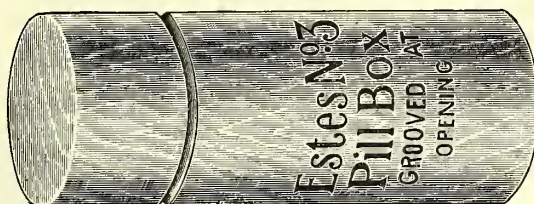
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**:: LEEDS, ::**

SEND THEM GOOD VALUE.

Smart, attractive, catchy Printing of every description. Set of Samples, 6d. For Colonies, 10/6, which is credited to £5 orders.





**Cheapest Boxes of any description made in the World.**

ESTABLISHED 1847.

**ESTES'**

**— American Turned —  
Wooden Boxes & Wooden Bottles**

... FOR ...

**PILLS, POWDERS, WAFERS, TABLETS,  
DRUGS, CHEMICALS, and LIQUIDS.**

**Also Mailing Cases & Syringe Cases.**

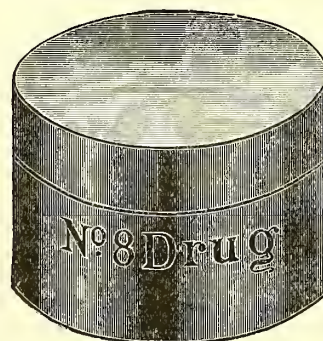
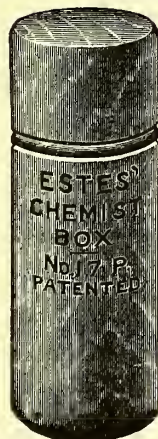
E. B. ESTES & SONS, NEW YORK, MANUFACTURERS.

**MAY ROBERTS & CO.**

7, 9, & 11 Clerkenwell Road, London, E.C.

— 16 Westmoreland Street, Dublin. —

**SOLE AGENTS FOR THE UNITED KINGDOM.**





The number of dentifrices is myriad, their names are legion,

*But—*

in principle and in efficiency there is but one,

# CALOX

## THE OXYGEN TOOTH POWDER.

Its principle is the evolution of oxygen.

Its efficiency as a cleanser of the teeth is due to the oxygen which it generates when used.

*Not only antiseptic, but deodorant, two desirable properties of a tooth powder. Its oxidizing and deodorizing power was obvious in our experiments.—THE LANCET, London, Eng.*

*Possesses not only strong antiseptic, but deodorizing and oxidizing properties, as the result of which the teeth, after a few days' use of CALOX, acquire a pearly whiteness.—THE CHEMIST AND DRUGGIST, London.*

CALOX is entirely different from other dentifrices. Its introduction marks a decided advance in the scientific development of a dentifrice, a fact which the dental profession the world over has been quick to recognise. Chemists should interest themselves in Calox because only a chemist can explain the peculiar virtues and value of an oxygen-producing dentifrice.

*Price to the trade, 9/6 per dozen on the P.A.T.A. plan.*

**McKESSON & ROBBINS, New York, U.S.A., Manufacturers.**

**BRITISH A. C. WOOTTON, 14 Trinity Sq., Tower Hill, London, E.C.**  
DEPOT—

**TO USERS and DEALERS in METH. SPIRIT and SPIRIT OF WINE.**  
**FOR QUOTATIONS apply to—**

## PRESTON'S LIVERPOOL DISTILLERY CO., LD.

*The Largest Makers in the Kingdom.*  
**BANKHALL DISTILLERY, SANDHILLS, LIVERPOOL. Office : 4 India B'ngs, Water St., Liverpool.**

# LAVONA DE COMPOSÉE AND FLOWERS OF OXZOIN

**ARE REDUCED IN PRICE**

**TO-KALON PERFUME (French Fon Fleur)**

is now put up in 2 dram as well as 1 oz. bottles.

Obtainable from all the Leading Wholesale Houses.

**ALL OUR GOODS ARE ON THE P.A.T.A. LIST.**

**TO-KALON MANUFACTURING CO.**

Albion House, 61 New Oxford Street, London, W.C.



# IMPORTANT NOTICE

TO

## CHEMISTS AND DRUGGISTS.



Messrs. A. ROWLAND & SONS, proprietors of Rowland's Macassar Oil, for strengthening the growth of the Hair; Kalydor, for beautifying the Complexion; and Odonto, for whitening the teeth and preventing their decay, have just had designed for them a new and beautifully coloured

### SHOW CARD

and will be glad to send one free of cost to any Chemist or Druggist who will send his name and address; also counter bills with name and address.

ROWLANDS' TOILET ARTICLES have been known for the last 120 years as the purest and best preparations for the Hair, Skin, and Teeth that have ever been made. They are largely advertised all over the world, consequently there is always a regular demand for them, and they should therefore be kept in stock by all stores, chemists, and druggists.

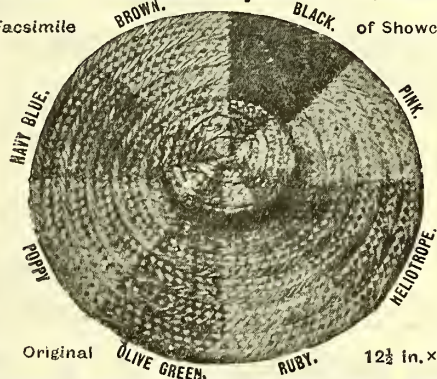
**A. ROWLAND & SONS, 67 HATTON GARDEN, LONDON.**

A new Invention of Great Utility.

## "LUTON" HAT DYES

No Gloss. No Polish. Dry at once. Resist rain.

Facsimile of Showcard.



In bottles, 6d. each, in separate neat cartons, with suitable brush

These Dyes are a distinct invention, dying the straw without an objectionable varnished appearance, and producing the effect of new goods.

Write for terms and patterns:

## WHITAKER & CO.

Colour Works, KENDAL, ENG.

SPECIALISTS IN VARNISHES, STAINS, DYES, &c. ESTD. 1878.

Colonial Testimonial—"Your 'Lutons' have really come up to the mark."—Geo. H. Langton, Port of Spain, Trinidad.

AS SUPPLIED TO H.M. THE KING.

## THE "HYGIENE" LAMP

(Patented at Home and Abroad.)

DISINFECTING OR PERFUMING

MOST  
ECONOMICAL



IN  
USE.

For purifying or perfuming the air in Public Halls, Private and Business Houses, Sick Rooms, &c., and for destroying Microbes, Germs, Insects and Parasites by means of Formaldehyde Vapour.

Favourably mentioned by the "Lancet" and the "British Medical Journal," awarded the Certificate of the Incorporated Institute of Hygiene, and recommended by leading London doctors.

### RETAIL PRICES.

Hygiene Lamps	5/6 each, 63/- dozen
" Concentrated Antiseptic Fluid	1/- per bottle
" Perfumed Fluid	1/6

Trade discount, 33 1/3%. Orders for £1 and upwards, carriage paid in U.K. 5% allowed for cash or 2 1/2% monthly.

Obtainable from all Wholesale Houses.

Pamphlets and showcards post free on application from Manufacturers

**ROBERTS, CORNFORD & CO.**

8a CITY ROAD, FINSBURY SQUARE, LONDON, E.C.



# 100% PROTECTED PROFIT.

*Prices of Eucryl Tooth Powder to the Trade.*

## OPENING ORDERS

BUYING PRICE.	£	s.	d.
3 doz. 6d. tins at 3/6 doz. ...	0	10	6
1 doz. 6d. free (for counter display) - - -	-	-	-
Free samples, showcards, etc. ...	-	-	-
Carriage Paid ...	£0	10	6

SELLING PRICE.	£	s.	d.
4 dozen at 6d. ...	1	4	0
	£1	4	0

## REPEAT ORDERS.

BUYING PRICE.	£	s.	d.
3 doz. 6d. tins at 3/6 doz. ...	0	10	6
½ doz. 6d. free (for counter display) - - -	-	-	-
Free samples, showcards, etc. ...	-	-	-
Carriage Paid ...	£0	10	6

SELLING PRICE	£	s.	d.
3½ dozen at 6d. ...	1	1	0
	£1	1	0

# EUCRYL TOOTH POWDER.

*To be obtained from all the Principal Wholesale Houses, or direct from The Proprietors,*

**EUCRYL LIMITED, HULL.**

## ZETTS DRY CLEANING CLOTH BALL



Will not fall to pieces in use, neither is it hard enough to rub holes in the most delicate fabric.

**IT HAS COME TO STOP.**



### 100% PROFIT.

And if you are dissatisfied with Sales we **WILL BUY BACK AT FULL TRADE PRICE** all our Cloth Balls you have on hand December 1, 1909.

Are you reaping the benefit of this exceptionally good paying line ???

**Remember.**  
**No dead Stock.**  
**Sells at Sight.**

**OUR TERMS ARE WELL KNOWN.**

If you prefer a "feeler" we will forward 14 6d. size and 14 1/- size, together with show dummies and show cards for 5/3 (five shillings and three pence), carriage forward.

**SOLE MANUFACTURERS AND PROPRIETORS—**

**O'NEIL, ZETTS & CO.**  
182 STROUD GREEN ROAD, N.

## W. R. TILBURY & CO.'S

**IMPROVED HYGIENIC**



**TOOTHBRUSHES**  
**Penetrate Everywhere.**  
**IN THREE SIZES.**  
**HACKNEY, LONDON**



**BIDWELLS'**  
**GOLD MEDAL**  
**TOOTH BRUSHES.**

**ILLUSTRATED CATALOGUE FREE ON APPLICATION.**

**HEAD OFFICE AND FACTORIES: ESTD. 1839.**  
**AXMINSTER, DEVON.**



**THE JOHN BULL HAIR FOOD***"Once tried always used"*  
TRADE MARK.**A GENUINE  
HAIR RESTORER.**A trial  
order  
solicited.Extremely  
attractive  
covers.There is  
money  
in it.Very  
stylishly  
put up.In  
three  
colors.Ready  
sale.*This Label is Registered.*

Advertised Prices ...	1/6 and 3/- per bottle	} Carriage Paid.
Trade Prices ...	13/6 and 27/- per dozen	

Laboratories: 280 Fulham Rd., South Kensington, London.

SOLE WHOLESALE AGENTS:

**SANGERS, 258 Euston Road, LONDON.****Dr. Dralle's  
Birch Water**

Celebrated Lotion for the Hair.

The prices are fixed for

No. 103 price	20/- doz.	Retail ...	2/6
No. 104	40/-	"	5/-
1 Litre Bottle	9/-	"	14/6

Grand Prix St. Louis, 1904.

" " Milan, 1906.

Wholesale:—  
**OSBORNE, GARRETT & CO., LONDON.****Charming  
Novelty!****DRALLE'S****Lily of the Valley-Illusion.  
IN LIGHTHOUSE.**

It is an ethereal essence without alcohol, so highly concentrated that the smallest drop will produce the sweet scent of the Lily of the Valley true to nature and never previously produced. Beats all previous records in perfumery.

Price 27/- doz. Retail 3/6

" 78/- " " 10/-

Ask for Free Sample.

Sole Agents for the United Kingdom &amp; British Colonies:

**RAAB & SONS, 25 Milton Street, London.**

Triple Milled "D" 12 Tablets.

**CHEMISTS' TRIPLE MILLED****Toilet Soaps**

Exclusively reserved for Chemists.

**GUARANTEE OF PURITY.**

These Soaps are guaranteed to be made from

**EDIBLE FATS, and are prepared under****STRICT HYGIENIC CONDITIONS**

Chemists' Triple Milled	...	...	25 Varieties.
Chemists' Savon de Toilette	...	10	"
Chemists' Milled	...	10	"
Chemists' Medicated	...	3	"
Chemists' Glycerin and Cucumber	1		"

**Grand Prize, Franco-British Exhibition.**

Full Particulars and Illustrated Price List from

**Price's Patent Candle Company, Limited.****BELMONT WORKS, BATTERSEA, LONDON.**



# "ERASMIC"

BRITISH and BEST.

DEAR SIR,

MAY 8th, 1909.

With the object of meeting the views of the Trade we have arranged that on and after this date the "Erasmic" Shaving Stick shall be supplied in Cartons, showstands, &c., without Price, and that in the future the selling price shall be as follows:—

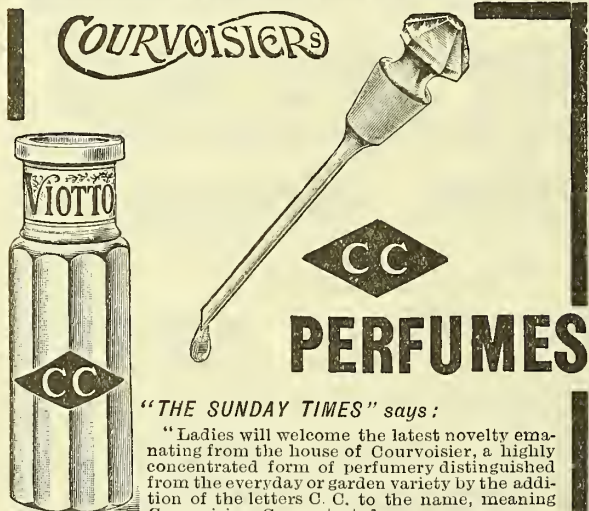
**Nominal 1s.; Minimum 10d. each.**

Trusting this alteration will lead to still further increased sales to our mutual advantage,

Yours faithfully,

**THE ERASMIC CO., Ltd.**

WARRINGTON.



"THE SUNDAY TIMES" says:

"Ladies will welcome the latest novelty emanating from the house of Courvoisier, a highly concentrated form of perfumery distinguished from the everyday or garden variety by the addition of the letters C. C. to the name, meaning Courvoisiers Concentrated.

"C. C. Perfumery contains no spirit, which comprises the very, very large proportion of an ordinary bottle of perfume. C. C. is sold in vials containing a perfuming rod, and from the end of this rod a globule of real perfume forms, which is even more than is required for all ordinary purposes.

"The contents of the vial are thus really greater than that of an ordinary bottle of spirit perfumery at an increased cost, and the delightful odour is far more lasting."

VIOTTO, C.C. PERFUME. HAVANITA, C.C. PERFUME.  
ROSE, C.C. PERFUME. LILY OF THE VALLEY, C.C. "  
30/- per dozen net. 3/9 per vial retail.

VIOTTO SOAP, 21/- per doz. boxes net, 2/6 per box of 3 tabs. retail.  
HAVANITA SOAP, 24/- " " 2/9 " "

All entered on the P.A.T.A.

OF YOUR WHOLESALE OR DIRECT FROM

**H. BRONNLEY & CO., LTD.**

ACTON VALE, LONDON, W.

**D. Pappazoglou,**  
KEZANLIK, BULGARIA.

**FINEST GENUINE  
OTTO OF ROSE.**

I make a speciality of pure oil with lowest  
[natural percentage of stearoptene.

Sole Agent: W. NAUMANN.  
U.K. & Colonies]. 63 Bartholomew Close, London, E.C.

**A Pure White . .  
Ointment in a  
Pure White Jar.**

**CURES ECZEMA,**

CUTS,  
BURNS,  
BAD  
LEGS,  
SCRATCHES,  
ULCERS &  
OPEN WOUNDS.

**HEALA**  
Cures the Pain First

On the  
P.A.T.A. List.

A LIBERAL  
CASH  
BONUS  
FOR  
DISPLAY.

Minimum  
Retail Prices:

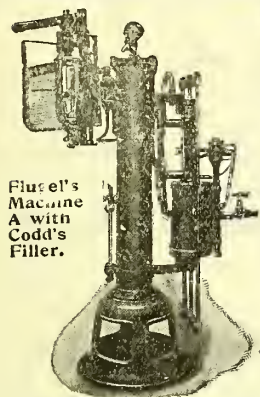
1/9, 3/6 & 5/6

Sole Proprietors

The Heala Manufacturing Co.  
74 & 75 Cheapside, LONDON, E.C.

OF ALL THE LEADING WHOLESALE HOUSES.





Flugel's  
Machine  
A with  
Codd's  
Filler.

## FLUGEL'S AUTOMATIC AERATED WATER MACHINES.

**Absolutely Automatic. No Work.**  
**CALL ON US YOURSELF.**

Capacity—400 Dozen Bottles Per Day. No Technical Knowledge Required.  
Syphons, and all kinds of Bottles filled.

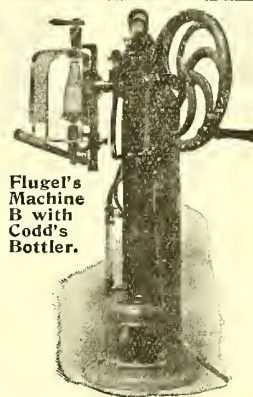
Machine A.—To connect only to water pipe, entirely automatic.

Machine B.—With hand pump for places without water pressure.

Write immediately for our Illustrated Catalogue.

**FLUGEL & Co., 21 Lime Street, LONDON, E.C.**

Every Chemist should have one; the only way to meet direct competition.



Flugel's  
Machine  
B with  
Codd's  
Bottler.

The  
Gold  
Medal  
Wine  
Tonic



London  
1908.

# WINCARNIS

**DO YOU** Stock it? It means quick **YOU DO** sales and a steady profit if **DO**

SEND FOR LIST.

All Registered Chemists can sell Wincarnis with Quinine without a licence. Why not you?

Medical men in your district order it often, and there is a large public demand. [16]

By Special Appointment to the King & Queen of Spain.

**COLEMAN & CO., LTD., 21 Wincarnis Works, NORWICH.**

## FORMALIN THROAT TABLETS.



The Popular Antiseptic  
for Preventing Infection  
from Diphtheria, etc.

In Amber Bottles,  
each 50 Tablets.

ROSE, MINT, MENTHOL,  
or LEMON FLAVOUR.

PRICE **5/6** PER DOZ.

Manufactured by

**Jules Denoual & Co.**

Carlton Works, ASYLUM ROAD, LONDON, S.E.

## The Smithfield Carrier Bicycle

Not a Cheap  
Bicycle with  
Carrier fitted.



Patented. To carry 1 cwt.  
The only Bicycle built throughout  
especially for the purpose.

Complete with Lamp and Bell.

Carriage paid.

**£7 0 0**  
Spot Cash.

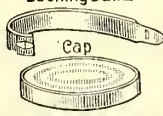
The most useful  
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man can have, and  
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HIGH GRADE.  
WELL FINISHED.

Write for  
Illustrated Price List.  
328/9 Bradford St.,  
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**BIRMINGHAM.**

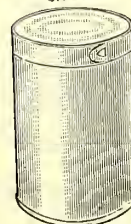
R. D. D. HETHERINGTON,

Locking Band



Finest and Simplest  
**.. AIR-TIGHT ..**  
CANISTERS in the World.  
(PATENT.)

Closed



Specially suitable for  
Infants' Food, Malt Ex-  
tracts, Health Salines,  
Ointments, etc., etc.

Full Particulars from the  
Sole Licensees—

**SHIRLEY BROS. Ltd.**

Whitecross Works,  
**ROCKINGHAM ST., S.E.**



# Do You Realise

that, by means of "**Prana**" Sparklets, any cold liquid can be made Sparkling ?

¶ Fruit Syrups, Cordials, Milk, Cold Tea, and many other refreshing summer beverages may be aerated direct in the "**Sparklovine**," the price of which has just been reduced to 6/6 (Trade 58/6 per doz. net); or they may be diluted with pure "Sodawater" freshly made in the **Sparklet Syphon**.

## "Prana" Fruit Crystals

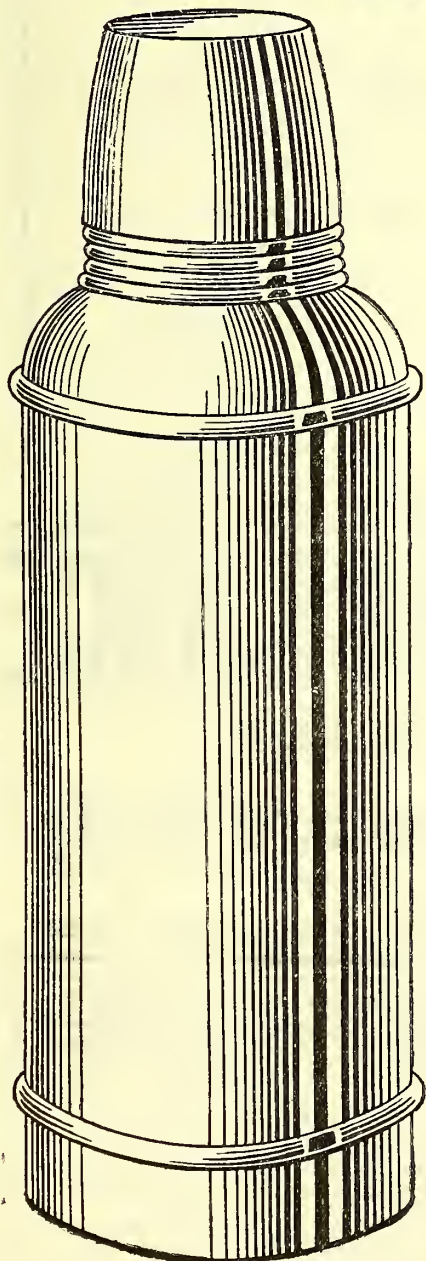
make the most delicious "sweet drinks" imaginable, and are now put up in hermetically sealed tins in an increased variety of flavours. ¶ "**Prana**" **Menthe** has been aptly described as "*Crème de Menthe* without alcohol," and is confidently recommended to those who relish the pungent refreshing flavour of fresh peppermint.

**AERATORS, Ltd., "Prana" Sparklet Works, Upper Edmonton, N.**



# THE **THERMOS** FLASK

—for Lactonised Milk.



**THERMOS** Flask not only keeps liquids steaming hot for 24 hours and cold liquids icy cold for days without fire or chemicals, but by testing and experiments by able Medical Men it has been proved to be the easiest, simplest, and most effective mode of producing Lactonised Milk. The *modus operandi* is as follows:—

Heat your milk to a temperature from 105° to 110°—pour into **THERMOS** Flask with one tablet of Lactic Acid and a spoonful of sugar. Allow the milk to stand from 10 to 12 or more hours, and perfect Lactonised Milk is the result.

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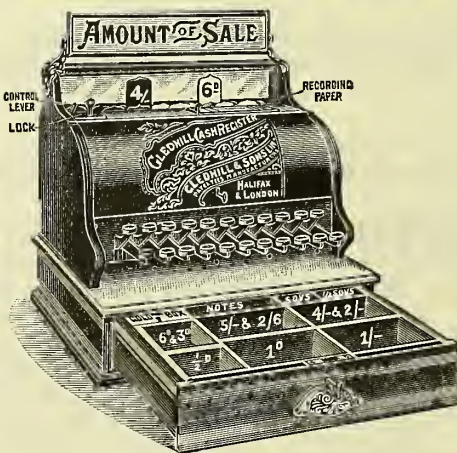
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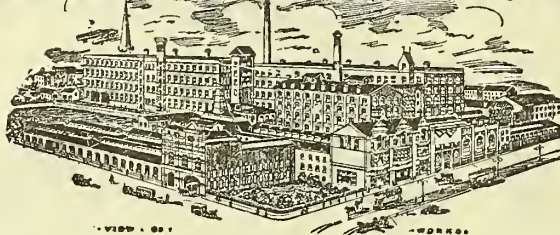
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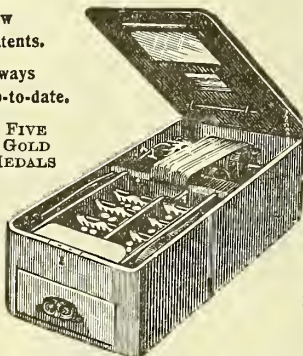
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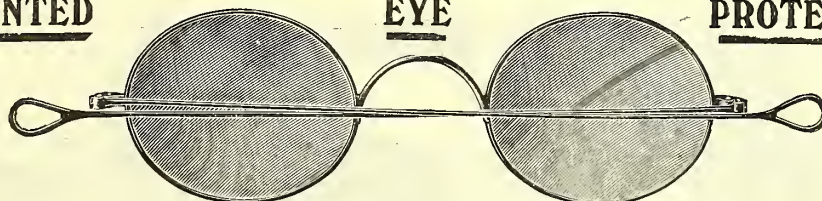
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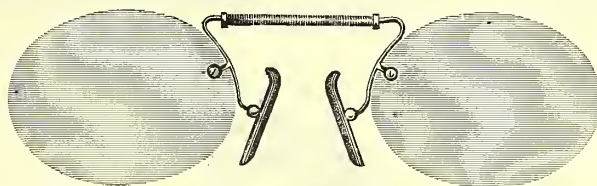
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Fig. 30.

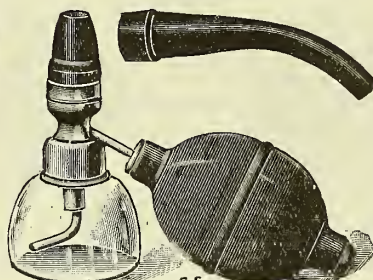


Fig. 12.

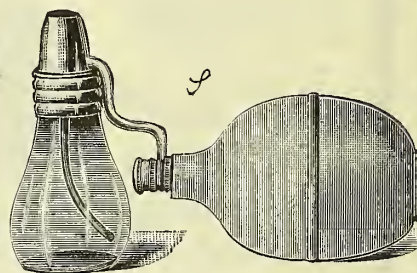


Fig. 31.

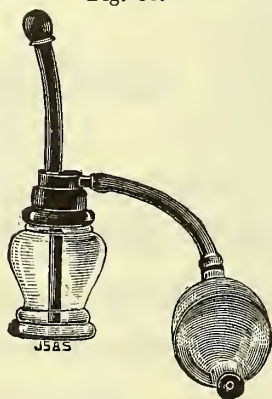


Fig. 27.



Fig. 1.

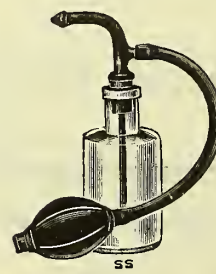


Fig. 35.

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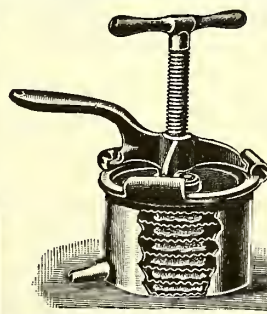
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GOLD MEDAL, Cape Town International Exhibition, 1904-5.

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Many pharmacists have assured us that even when the name "**HEWLETT'S**" is not appended to the above title they invariably dispense **HEWLETT'S** preparation, as they know from experience that it is the best, that it keeps indefinitely, and universally gives satisfaction, whilst imitation preparations vary so considerably, not only from the **original**, but from each other, that patients notice the difference and complain.

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**VITTORIA LIQUORICE JUICE.** THE FINEST AND  
PUREST OBTAINABLE.

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Specialities.

Essential Oils, High Class Powders from Specially Selected Drugs,  
Crude Drugs of all Descriptions.

Correspondence in French, German, Spanish and Portuguese.  
Indents executed for all Classes of Good on Commission Basis.

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*"The Stick in the Glass Case"*

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During June and July (only) we will supply 14 to the dozen for orders of three dozen and over.

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SOLE AGENTS IN THE UNITED KINGDOM:

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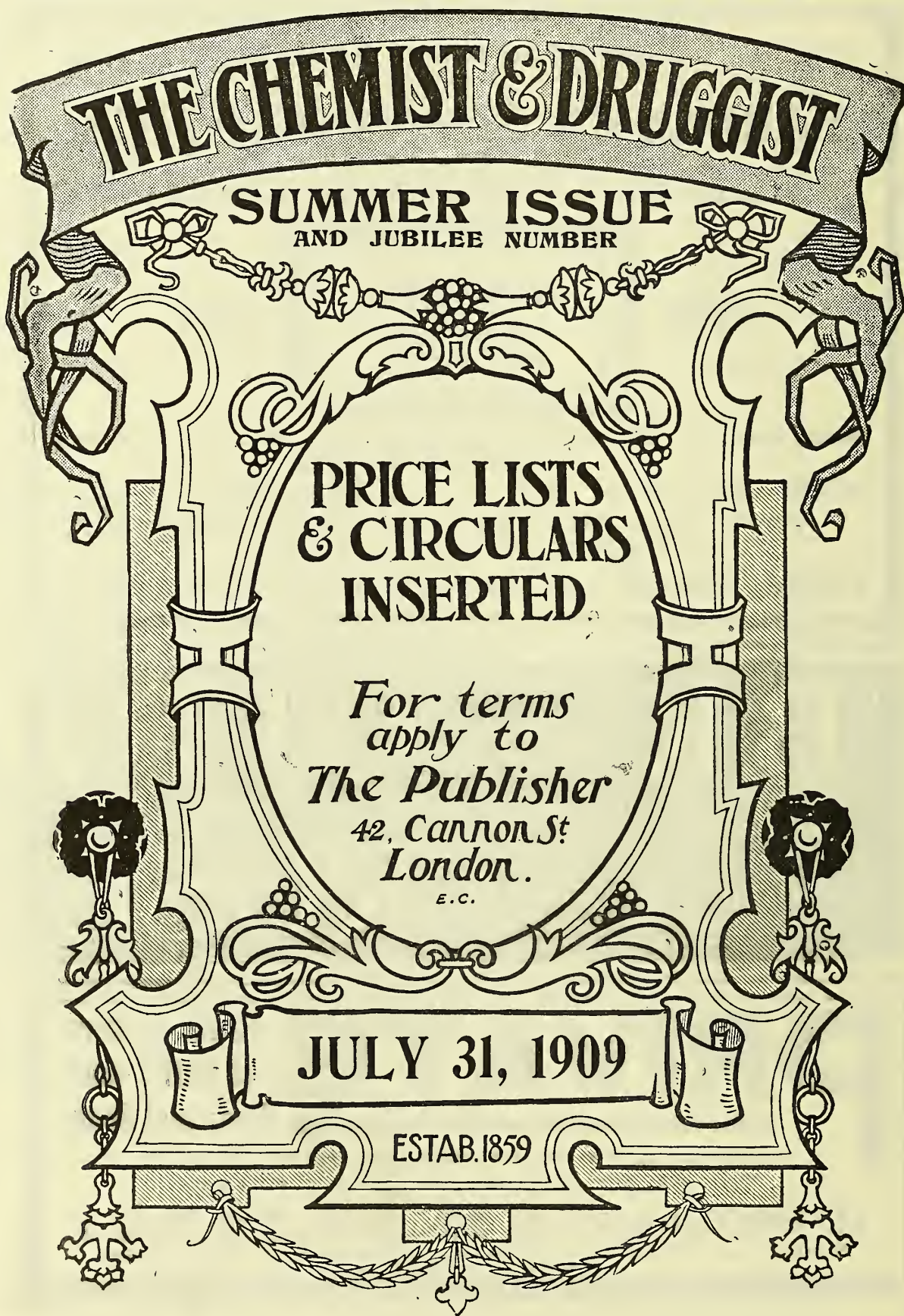
*Manufactured by us so that they reflect credit upon you and your goods.*

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**H. BRONNLEY & CO., Ltd.,** Warple Way,  
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Acton Trams and Buses pass the door.







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attain that degree of pharmaceutical elegance which reflects the greatest credit upon the seller's business.

They are doubly profitable.

In addition to the monetary profit derived from initial and repeated sales, there is permanent profit in the favourable impression which these fine pharmaceutical products create.

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**"'Hazeline' Snow"**

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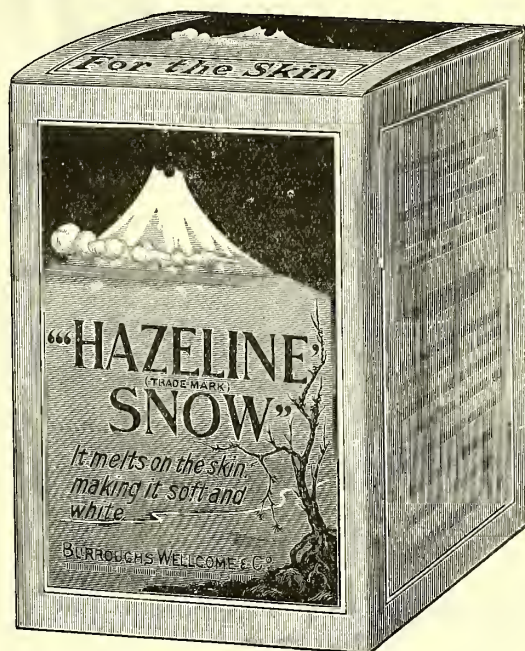
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Combines the valuable astringent properties of 'Hazeline' with a wool fat base of exceptional purity.

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**RETAILS**  
**AT**  
**1/-**  
**PER**  
**BOTTLE.**

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DEAR SIRs.—During our summer holiday last August, we derived so much benefit from the use of "Otango" that I feel I cannot speak too highly in its praise. My little boy aged 5 years was unfortunate enough to disturb a wasp's nest, with the result that he was stung in 19 places, which soon became swollen and caused great pain. Happily I applied some "Otango" which I had with me, and after several applications the swelling and pain disappeared and in 2 hours from the time he was stung he was running about and playing as though nothing had happened.

You are at liberty to use this letter in any way you like, as I cannot recommend "Otango" too much.

Yours truly,  
M. K.

*This is one of many unsolicited testimonials.*

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**PRICE**  
**(NET)**  
**7/6**  
**PER**  
**DOZEN.**

A sample will be sent on application to

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**6 GILTSPUR STREET, E.C.**  
**64 PARK STREET, S.E.**  
**38 SOUTHWARK ST., S.E.**





**A Weekly Journal of the Chemical and Drug Trades,**  
and of  
**British Pharmacists throughout the Empire.**  
ESTABLISHED 1859.

The CHEMIST AND DRUGGIST is the leading journal addressing the chemical and drug trades of the British Empire. It is adopted as an official journal by seventeen Chemists' Societies in Australia, Ireland, New Zealand, South Africa and the West Indies, and its paid-in-advance circulation in Great Britain and all Countries having business relations with the British Empire is intrinsically and numerically unique.

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#### CONTENTS: Vol. LXXIV., No. 23 (Series No. 1532).

	PAGE		PAGE
Agricultural Poisons .....	856	Scots News .....	848
American Notes .....	850	South African News .....	851
Arrangements .....	851	Trade-marks Applied For ..	894
Association Affairs .....	865	Trade Notes .....	854
Births .....	853	Trade Report .....	887
Books, New .....	867	Westminster Wisdom .....	858
Business Changes .....	853	Wills .....	853
College Notes .....	Col. Supp.	INTERNATIONAL CONGRESS OF	
Coming Events .....	Col. Supp.	APPLIED CHEMISTRY:	
Correspondence:		Opening Proceedings .....	868
Chemist Extractors; B.P.		Sections and Presidents ..	869
Committee of Reference		General Lectures .....	870
in Pharmacy; It gets		Phar. Chem. Section:	
there; Administration of		President's Address .....	871
the Poisons and Pharma-		Eupatorium Rebaudiana-	
cy Act .....	891	num .....	873
Remedies for "Sunshine";		Hordenine .....	873
Competition in Cork; Tr.		Matico-leaves and oil ..	873
Ringwood; Unqualified		Botanical Knowledge	
Management; Scent		and Chemical Investi-	
Worms for Trout-catch-		gation .....	874
ing; Australian Honey...	892	Elaterin .....	874
Appreciations .....	893	Organic Arsenic Com-	
Legal Queries .....	893	pounds .....	874
Miscellaneous Inquiries ..	893	Iodo-phenyl-arsenic Acid	
Deaths .....	853	Asphyl .....	874
Editorial Comments:		Testing of Oils .....	874
The Finance Bill .....	860	Starch-differentiation ..	874
Mexican Vegetable Wax...	862	Standardisation of Potent	
Liver-fats and Cod-liver		Drugs .....	877
oil .....	862	Variations in Activity of	
English News .....	846	Drugs .....	877
French News .....	848	Examination of Medica-	
Gazette .....	852	ments .....	879
General Medical Council ..	864	Heart Tonics .....	879
German News .....	850	Testing Quinine .....	880
How to Treat Travellers ..	855	Acetanilide Correctives	
Information Wanted Col. Supp.		Chemistry of the U.S.P.	880
Insecticides, Sheep-dips, and		Progress in Standardisa-	
Weed-killers .....	863	tion .....	881
Irish News .....	847	U.S.P. Organic Com-	
Legal Reports .....	851	pounds .....	881
Marriage .....	853	Salicylates Solubilities	
Materia Medica Notes .....	886	and Determination .....	881
"May-Roberts" .....	855	Compressed Tablets .....	882
Medical Gleanings .....	865	Glucoside Testing .....	882
Minor Experiences ..Col. Supp.		Cyanhydric Glucosides...	882
New Companies and Com-		Scopolia Japonica .....	882
pany News .....	852	Japanese Henbane and	
Observations and Reflections		Stramonium .....	883
Optical Observations .....	858	Malt-extracts .....	883
Personalities .....	854	Those Who Attended .....	883
Poisonings .....	851	Other Sections .....	884
Reviews .....	867	Closing Proceedings .....	885
		Festivities .....	885

THIS week Mr. Dobbs has given chemists the most valuable point of opposition to Section 2 licences. The first of these granted in a town may meet the statutory "reasonable facilities," he says (p. 857).

## Summary.

The subjoined paragraphs give the gist of the more important matters in this issue, with the object of showing at a glance what has happened during the week. See also "Contents" in the first column.

SOME GOOD POINTS about eyeglass-fitting are given in this week's optical column (p. 858).

RINGWORM is a trouble that many chemists are asked about. The notes on p. 865 are useful.

THERE are more letters on p. 891 regarding the protection of the interests of chemist-extractors.

A NEW INVESTIGATION on the chemistry of jalap is one of the Congress subjects which are reported (p. 884).

THE LIVER as a fat-factory may be regarded as the subject of a medical lecture upon which we comment on p. 862.

THE HOME SECRETARY is to receive next Tuesday a deputation from the Assistant Pharmacists' Union (p. 858 and p. 866).

THE NAMES of a number of dentists have been removed from the Dentists' Register by the General Medical Council (p. 864).

A FIVE-POUND order for insecticides, sheep-dips, and weed-killers is the practical issue of the topical article that begins on p. 863.

A CHEMIST in the East of London has been fined under the Medicine Stamp Act, 1812, for reselling glyco-thymoline unstamped (p. 851).

THE B.P. COMMITTEE OF REFERENCE IN PHARMACY thank the critics of their recent report, and invite more comment of a constructive or destructive nature (p. 891).

M. PATEIN, President of the Paris Society of Pharmacy for the current year, has been interviewed by the *C. & D.* Paris correspondent, to whom he gave some interesting facts about his career (p. 850).

THE DEATH of Mr. I. T. Lewis, formerly Treasurer of the Ontario College of Pharmacy, occurred at Plymouth last week. We also report the death of Dr. Gathergood, a well-known herb-grower (p. 853).

THE FINANCE BILL is analysed in an article beginning on p. 860, the licensing provisions and spirit-duties being specially dealt with. A number of points which specially affect chemists are included. "Xrayser" also comments upon it—pungently (p. 859).

THE chemical and drug markets have been overshadowed by the holidays, but there is a steady undercurrent of trading notwithstanding, though price movements are few. Matto Grosso ipecacuanha has advanced 3d. Copper sulphate is higher. Russian cantharides and lycopodium are firmer. Pepper is active and dearer. Citrates and cream of tartar are higher (p. 887).

THE SEVENTH INTERNATIONAL CONGRESS OF APPLIED CHEMISTRY has just been held in London, and is fully reported in this issue, so far as the Pharmaceutical Section is concerned. We deal first with the general arrangements, and give the Prince of Wales's speech at the opening ceremony. This is followed by reports of five special lectures, then by the Pharmaceutical Section, including Mr. N. H. Martin's presidential address and abstracts of all the papers with discussions thereon. A few of the communications to other Sections are given, as well as concise reports of the final general meeting and of the social events. The next Congress is, by invitation of Mr. Taft, President of the United States, to be held in Washington. The reports begin on p. 863.

## THE INSECT IDEA

has become very popular with advertisers in recent years. A growing number of firms appreciate the advantages derived from the valuable distribution of their illustrated catalogues, trade circulars, or price-lists as part of THE CHEMIST AND DRUGGIST. The next opportunity of distributing insets to twelve thousand potential buyers of chemists' supplies in this manner will be in the

### Jubilee Number and Summer Issue.

to be published on July 31. Full particulars of charges for advertising in the Issue may be obtained from the Publisher, THE CHEMIST AND DRUGGIST, 42 Cannon Street, London, E.C.



## English News.

Local Newspapers containing marked items of news interesting to the Trade are always welcomed by the Editor.

### Brevities.

At the Thames Police Court on June 2, Barnet Freedman, tobacconist, St. George's Street, London, E., was fined 100*l.*, or in default six months imprisonment, for harbouring and concealing uncustomed saccharin and tobacco.

At Nottingham Shire Hall, on May 29, Mr. Henry Jackson, chemist, West Bridgford, was fined 5*l.* and costs for withholding particulars of an endorsement on the licence entitling him to drive a motor cycle, and also with fraudulently altering such licence.

"The Modern Magazine," a Liverpool monthly, devotes two pages of its May issue to the woes of Liverpool chemists under the title, "The Public's Door-mat." It embraces an interview with Mr. G. V. C. Last, secretary of the Liverpool Chemists' Association.

At the West Ham Police Court on May 31, Edward Spencer (11) and William Spencer (9) were charged with stealing a sack-truck, value 15*s.*, from a railway siding at Messrs. Howards & Sons' City Mills, Stratford. The elder boy was ordered six and his younger brother two strokes with the birch.

At Stamford County Court, on May 24, Mr. Geo. Johnson, chemist and druggist, Stamford, was successful in a claim against Alfred Foster for 15*l.* 14*s.* due for goods supplied. The defendant's counterclaim for 14*l.* 7*s.* for work done was reduced to 6*l.* 17*s.* 6*d.* by Judge Wightman Wood. The plaintiff offered 10*l.* 7*s.*

"Chemists and the New Muzzling Order" was the headline that the "Sheffield Independent" gave to its report of the mutiny of the Sheffield Pharmaceutical and Chemical Society last week. It was a rather warm meeting, and one of the members described a proposed rule as "a kind of a new muzzling order."

### British Dental Association.

The annual meeting of this association has been held at Birmingham during the past week. It commenced on Saturday, May 29, with an address by Mr. H. R. F. Brooks, the president. In the course of the proceedings there was a good deal of discussion on the Bill to amend the Dentists Act which the council of the association proposes to introduce into Parliament. The leading principle of the Bill is total prohibition of the practice of dentistry by anybody except registered persons, subject to the recognition of unregistered persons at present practising, who would be placed upon a list by themselves. The latter proposal comes from Mr. Guy, of Edinburgh, and it is warmly opposed by a section of the association. The Anesthetics Bill was also discussed and disapproved.

### Store-prices.

The alterations due to increased duties are dealt with in a supplementary list of thirty-two pages in addition to the usual monthly circular of the Civil Service Supply Association. The drug-department occupies only half-a-page in the latter, summer salines and beverages being given chief prominence. The drug-department as an advertising-medium is palpably losing its power.

*Prices advanced* are: Coutt's acetic acid, per bot. 1*s.* 2*d.* and 1*s.* 10*d.*; Fowler & Shepherd's bay rum, per bot. 1*s.* 8*d.*; Crème Simon, per bot. 9½*d.* and 1*s.* 7*d.*; Glycola, 6*d.* size 5*d.*, 1*s.* size 10*d.*; Mellin's Food biscuits, per tin 1*s.* 11*d.*

*Prices reduced* are: Camphor, 2*s.* 4*d.* per lb., 1-oz. tabs. 2*d.* each or 2*s.* 6*d.* per lb.; Erasmic soap, per box of three tablets 11½*d.*

One page is devoted to drugs and two to perfumery in the supplementary list. The following indicate the alterations in spirituous preparations, the figures in parentheses being the former prices:

Spt. æther. nit., 4 oz. bot. 1*s.* 1*d.* (11½*d.*); spt. ammon. arom., 4-oz. bot. 1*s.* (10½*d.*); tr. arnicæ, 1-oz. bot. 3½*d.* (3*d.*), 2-oz. bot. 10½*d.* (9½*d.*); tr. benz. co., 1-oz. bot. 4½*d.* (4*d.*), 2-oz. bot. 8½*d.* (7*d.*); tr. card. co., 4-oz. bot. 10*d.* (8½*d.*); tr. iodi, 1-oz. bot. 6*d.* (5½*d.*), 2-oz. bot. 11*d.* (9*d.*); tr. myrrha, 2-oz. bot. 8*d.* (6½*d.*), 4-oz. bot. 1*s.* 2*d.* (11½*d.*).

Apparently the prices of tinctures have been raised by ½*d.* per oz. Eau-de-Cologne has been increased in price by 2*d.* per 4-oz. bottle for the well-known proprietary, and also C.S.S.A. brands. Atkinson's perfumes are increased from 1*s.* 6*d.*, 2*s.* 8*d.*, and 4*s.* 6*d.*, according to size, to 1*s.* 9*d.*, 3*s.* 1*d.*, and 5*s.* 3*d.* Rimmel's and Piesse & Lubin's perfumes are increased by 2*d.*, and Grossmith's small sizes by 1*d.* C.S.S.A. perfumes are now 1*s.* 1*d.*, 1*s.* 11*d.*, and 3*s.* 2*d.*, instead of 1*s.*, 1*s.* 10*d.*, and 3*s.*

### Sale of Food and Drugs Acts.

The Camberwell analyst reports that one sample of lime-water and one sample of mustard were examined during last quarter and certified as genuine.

The Southampton public analyst examined the following samples during April: Camphorated oil 3, cream of tartar 3, glycerin 3, cod-liver oil 3, olive oil 3, pepper 2. All were genuine except the camphorated-oil samples, which were all approximately 8 per cent. deficient in camphor. The vendors were cautioned. Of six samples of aerated water, two contained 2 parts per million, and another a mere trace, of lead, but no evidence of contamination with copper was found.

The Middlesex County analyst (Mr. E. J. Bevan) examined the following samples during the last quarter: Prescriptions 13, glycerin 2, and camphorated oil 1. All the samples were certified as correctly compounded or genuine with the exception of the camphorated oil, which was 34.6 per cent. deficient in camphor. The following informal samples were also reported upon: Tartaric acid 22, Epsom salt 7, olive oil 3, zinc ointment 2, alum 1, sal ammoniac 1, laudanum 1, lime-water 1, castor oil 1, eucalyptus oil 1—all genuine. Of ten informal glycerin samples three contained an excess of water, and of sixteen samples of camphorated oil six were 8.5, 9, 9.5, 18, 25, and 73 per cent. deficient in camphor. Two samples of "oil of camphor" were 70 and 71.5 per cent. deficient in camphor. Only one prosecution was instituted (under the Merchandise Marks Act) in respect of the sale of camphorated oil under a false trade description. A fine of 2*l.*, and 2*l.* 2*s.* special costs, was inflicted.

### A Vitriolic Episode.

Mr. Percy H. Gamlen, chemist and druggist, West Hartlepool, sends us an account of an exciting forty minutes experienced by him on May 27. Mr. Gamlen, having occasion to go into the warehouse for a pennyworth of black varnish, broke a winchester of strong sulphuric acid with the step ladder. The contents were received full in the chest, whence the acid flowed down his trousers into his boots. A rush through the house and a quick plunge into a portable bath full of water at the back of the premises followed after removal of the charred clothes. With the exception of a dry tingling skin, Mr. Gamlen felt little the worse for the accident. In the stampede through the house the window-curtains were completely destroyed by the contact with acid, while the carpet and linoleum were burnt through wherever there were footprints. Incidentally a collision occurred with the maid, who required immediate medical attention on account of some splashes of vitriol about the eyes. The sulphuric acid was streaming from the warehouse into the shop, and a dozen ½-stone packets of whiting, which happened to be handy, were strewn over the floor, and soon all danger was passed.

### Birmingham Notes.

Mr. Marshall Freeman has published a book on "dog" law which has received favourable comment.

Sir Thomas Barclay's recent speech still continues to attract local correspondents in the "Birmingham Daily Mail."

The father of Mr. H. S. Shorthouse (Phillip Harris & Co.) died this week. Mr. H. S. Shorthouse is at present in Canada on a business tour for his firm.

The death is announced of Mr. White, chemist, Bromsgrove Street, who succeeded the late Mr. Price, and very successfully carried on the business of a chemist and druggist for many years.

The local Medical Association is suffering from the M.P.A. complaint. Sir James Sawyer says that there are 4,000 medical men in the area covered by the society, and only 400 were members of the organisation.



**Guardians' Doings.**

The Daventry Guardians have decided not to allow the charges of 5*l.* 10*s.* made by the medical officer (Dr. Rafferty) for expensive medicines.

The Billericay (Essex) Guardians have allowed an additional 5*l.* to the medical officer for the year's supply of drugs, owing to the increased duty on spirit.

The Retford Guardians have referred to the House Committee an application from Dr. Bruce, South Leverton, for an increase in salary owing to the higher price of drugs.

The Barton-upon-Irwell (Lancs) Guardians have declined to adopt a suggestion by the Local Government Board that they, instead of the medical officer, should supply the workhouse drugs.

**Wine-licence.**

The off wine-licence attached to the business of Mr. C. S. Davis, of The Strand, Waverley Road, Portsmouth, has been transferred to Mr. H. G. Orme, chemist and druggist.

**Contracts.**

Hemsworth Guardians.—Mr. G. Hodgson, chemist and druggist, Hemsworth, for the drug-supply.

Dartford Urban Council.—Adcock, Easton & Co., for soluble purifier; United Alkali Co., Ltd., for chlorinated lime.

**Cricket.**

Allenburys C.C. v. Tolmer.—At St. Quintin's Park, on May 29, the former team won a close match by three runs. Scores: Allenburys, 40; Tolmer, 37.

Potter & Clarke's C.C. v. Burgoyne's C.C.—This League match, played on May 29 on the former team's ground, ended in the home club winning an exciting game by nine runs. For the winners the chief scorers were V. H. Warrington and R. Stokes, with totals of 22 and 18 respectively. The former also took six wickets for 22 runs. For "Burgoyne's" Gardiner made a fine effort to win the match with a hard-hit 29. Scores: P. & C., 76; Burgoyne's, 67.

Notts Chemists' C.C. v. Leicester Pharmacy A.C.—At the Y.M.C.A. ground at Nottingham on May 27, a grand game resulted under the good weather conditions that prevailed. The Notts pharmacists batted first, and did well in scoring 62 runs for the loss of five wickets, but the next four fell without adding to the score, and the innings closed with the total at 66. Of this number Green contributed 23, Henstock batted patiently for 18, and Ridout hit hard for 14. Leicester, on commencing, lost three wickets for 16, but Marfitt and Tomlin, with scores of 26 and 18 respectively, carried the score to within nine runs of the Notts total before being parted. The innings realised 110, of which Chell made 21. For the winners Miles took five wickets for 21 runs and Chell four for 16. Meadows was the most successful of the Notts team with the ball, securing four wickets for 26 runs.

British Drug-houses' C.C. v. Leicester and Notts C.C.s.—Played at Brockley on Whit Monday. The visitors were taken to the ground by motor-bus, and the match commenced at 1.30 p.m. in perfect weather. The visitors batted first, and lost Tomlin (Leicester) and Henstock (Notts) before scoring. Prince (Notts) and Miles (Leicester) were mainly responsible for the total of 87 runs, with scores of 18 and 27 respectively. The B.D.H. team fared disastrously, being dismissed for 24 runs. Miles took five wickets for 2 runs and Meadows (Notts) four for 19. In B.D.H. second innings eight wickets were down for 27 runs, but Cullen and Parker then added 17 each, and the total reached 72. Chawner (Leicester) did the "hat trick" during this innings (for the second time this season), and he took four wickets for 8 runs. The teams were entertained to dinner in the evening at the Holborn Restaurant by the British Drug-houses, Ltd. After dinner, the Chairman (Mr. Alan Francis) heartily welcomed the visitors. Mr. S. F. Burford (vice-president of the Leicester Pharmacy A.C.) wittily responded, and Messrs. G. E. Marfitt and E. F. Carr (captains of the Leicester and Nottingham contingents) also expressed their gratification at the splendid hospitality they had received. Mr. G. J. R. Parkes (the organiser of the outing) proposed "The Health of the British Drug-houses, Ltd.," connecting with the toast the

names of the genial Chairman and Mr. Watkin and Mr. Harrell, who were responsible for the arrangements in London. After dinner the visitors spent the remainder of the evening sight-seeing, and returned home tired but thoroughly satisfied with their outing.

**Irish News.**

Local Newspapers containing marked items of news interesting to the Trade are always welcomed by the Editor.

**Brevities.**

The premises of Messrs Wm. Woods & Co., wholesale druggists, Waring Street, Belfast, which were partially destroyed by fire lately, are being rapidly rebuilt.

A fire occurred on May 24 in a chemical store belonging to Mr. T. L. Cole, Ph.C., Market Street, Lurgan, where also some hay was stored. The roof and first floor of the building were completely destroyed.

The Sligo Board of Guardians have granted their dispenser (Mr. A. Denning) his annual month's leave of absence, and have appointed Mr. Wm. Rowlette, L.P.S.I., his substitute at a remuneration of 2*l.* a week.

At the Cork Quarter Sessions, Mr. Richard Sunner, pharmaceutical chemist, 31 St. Patrick Street, recovered the sum of 12*l.* 2*s.* from Alfred Mathews, Surveyor of Income Tax, Blarney, being balance of an account for surgical dressings and a camera.

The committee of management of the Sligo County Infirmary have granted their apothecary one month's leave of absence, and have agreed to pay his substitute (Mr. Cagney, L.P.S.I.) at the rate of 1*l.* 10*s.* per week during that term.

Arrangements are well advanced for the seventy-seventh annual meeting of the British Medical Association in Belfast from July 23 to 31, when Sir William Whitla, M.D., Ph.C., will preside. The sectional meetings will be held in the classrooms of the Royal Belfast University.

The public analyst of Belfast, Mr. Robt. Barklie, F.I.C., who is Hon. Secretary and Treasurer of the Irish Collie Association, had a wonderful series of successes at the Kilkenny show with his dogs Fannmore Fanny and Fair Maid, which between them captured six firsts, three specials, four seconds, and one third prize.

The business establishment of Mr. L. Longmore, L.P.S.I., at Dromore, co. Down, under the name of the Dromore Pharmacy, has now been acquired by Mr. J. Dale, L.P.S.I., who has had extensive experience in some of the best northern pharmacies. Mr. Longmore's health has been delicate lately, and he proposes to go abroad.

The Mohill Guardians had a long discussion at their last meeting regarding the refusal of the Local Government Board to sanction the award of the drug contract to Mr. Burns. A fighting resolution was passed on the subject, the chairman declaring that so long as he is in his present position he will not sign any medicine requisitions to anyone but Mr. Burns.

**Personal Items.**

Mr. W. F. Wells, pharmaceutical chemist, is employing a negro to advertise his Wellseene corn-destroyer. The idea is attracting much attention.

Mr. C. B. Vance, pharmaceutical chemist, Greystones, co. Wicklow, has been approached with a view to his co-optation to the Council in the place of Mr. Johnston, whose resignation was before the Council this week.

Mr. William Vincent Johnston, pharmaceutical chemist, proprietor of the Ranelagh Pharmacy, Dublin, has forwarded to the Pharmaceutical Society his resignation as a councillor. Pressure of studies for an approaching medical degree and a prospective appointment are the causes of his resignation.

Mr. J. E. Connor, J.P., chemist and druggist, was presented to the Lord-Lieutenant of Ireland, who visited Warrenpoint on Whit Monday to declare the baths open. Mr. Connor read an address to his Excellency from that body, and at the subsequent luncheon Lord Aberdeen said that much of the success of the day's proceedings was due to Mr. Connor.



**New Businesses.**

A new medical hall has been opened at 34 Woodvale Road, Belfast, by Mr. J. Gillespie, druggist, formerly of Lurgan and Whitehead.

Mr. Victor Hanna, pharmaceutical chemist, late of Messrs. Butler's Medical Hall, has opened a pharmacy in Lower Mount Street, Dublin.

Mr. W. H. Ashmore, pharmaceutical chemist, has opened the International Pharmacy in Dawson Street, Dublin. Mr. Ashmore was formerly with Messrs. John Evans & Son.

**Scots News.**

Local Newspapers containing marked items of news interesting to the Trade are always welcomed by the Editor.

**Aberdeen and the North.**

The chemists of Buckie have agreed to close from 2 P.M. to 6 P.M. on Wednesdays during the next four months.

An alleged case of accidental poisoning is being inquired into at Ballater. It is understood that strychnine has been administered to a seven months' old child with fatal consequences in mistake for teething-powder.

The business carried on by the late A. L. Shand, at 66 Holburn Street, Aberdeen, has been taken over by Mr. David Soutar Allan, at present with Mr. T. R. Lester, of Cork. Mr. Allan belongs to Aberdeen, and served his apprenticeship with Messrs. Souter & Shepherd, wholesale druggists. Previous to passing the Minor he was assistant to Mr. W. F. Hay, Rose Street. He also holds the Irish diploma.

Mr. Marshall K. Watt, chemist, whose purchase of the business of Mr. Henry Milne was noted last week, served his apprenticeship with Messrs. Geo. Reid & Sons, chemists, Aberdeen, and qualified in 1896. He was for three years dispenser at Aberdeen Royal Infirmary, and in 1897 he taught an evening class under the Aberdeen Pharmaceutical Association. When Mr. R. Hunter opened his pharmacy in Union Street Mr. Watt went to him as senior assistant, and a year later went out to Singapore as manager of The Dispensary. During his nine years in Singapore he was for a time examiner to the Straits and Federated Malay States Government Medical Schools.

**Dundee.**

The arrangements for the chemists' weekly half-holiday are progressing slowly. At a meeting of the Pharmacists' Association held on Monday evening, May 31, the proposal to close for the day at 3 was dropped, and it is now proposed to close from 2 till 7 P.M.

Mr. Charles Kerr, J.P., Ph.C., raised the question of juvenile smoking in music-halls at the local licensing court held on June 1, and the chief constable informed him that it is not an offence for juveniles to smoke in private places, which music-halls are. Mr. Kerr considered that that proves the Children Act to be a farce.

Mr. Jas. Braik Mason, F.C.S., chemist and druggist, having decided to retire from business, his stock and fittings at 185A Perth Road were sold by auction on June 1. The prices realised were disappointingly low. Mr. Mason was in business in Scouringburn for many years, then moved to Perth Road. He also had some success as tutor and teacher of science.

**Glasgow and the West.**

Seven chemists in Glasgow have grocers' licences.

West Coast pharmacists have practically entered upon their busy season.

Mr. Thomas McFarlane, chemist and druggist, Main Street, Biggar, has disposed of his business to Mr. J. S. Dempster, chemist and druggist.

Mr. Farquhar, chemist and druggist, has been engaged as manager of the branch shop of Mr. Thos. Adam, pharmacist, Queen's Cross, New City Road, Glasgow.

The Linnean Society gold medal was presented last week to Dr. F. O. Bower, F.R.S., Regius Professor of Botany in the University of Glasgow, in recognition of his work on the suppression of spore-production.

**Edinburgh.**

Mr. David Brown on May 31 retired from the firm of Messrs. J. F. Macfarlan & Co., manufacturing chemists, Edinburgh and London, leaving his son, Mr. D. Rainy Brown, and Mr. Alexander Macdonald to continue the business as partners.

A report presented to the managers of the Edinburgh Royal Infirmary on May 31 states that the increase in the duty on alcohol would cost the institution during the year 112*l.* extra for galenicals and 50*l.* for anæsthetics. A letter from the Dundee Royal Infirmary asked for support in an endeavour to get concessions in regard to tinctures and other spirituous pharmaceutical preparations.

At the recent sitting of the Board of Examiners of the Royal College of Veterinary Surgeons held in Edinburgh, nine students of the Royal (Dick) Veterinary College passed the Class A examination, ten the Class B, six the Class C, and nine the Final examination. Four students took first honours and one second. The nine who passed the Final were Edwin Armstrong (Whitehaven), Frank Bradley (Hessle), David Hannay (Edinburgh), Frank Hogg (Felling-on-Tyne), Chas. S. Hunting (South Hetton), Wm. M. Mitchell (Sunderland), Jas. A. Robertson (Coolangatta, N.S.W.), B. A. Searby (Louth), and W. A. Smith (Boyle).

The preliminary ties of the five-a-side football competition of the Edinburgh Pharmacy Athletic Club for the Anderson Challenge Cup took place at the Royal Gymnasium Grounds on May 28, with the following results in the first round: Raimes, Clark & Co., Ltd., beat J. F. Macfarlan & Co. (holders); Harkness, Beaumont & Co. beat J. T. Coats & Co.; T. & H. Smith, Ltd., beat Duncan, Flockhart & Co. In the second round Raimes, Clark & Co., Ltd., beat T. & H. Smith, Ltd.; while Harkness, Beaumont & Co., securing a bye, meet the former team in the final tie at the club's annual sports on June 7.

**French News.**

(From the "C. & D." Paris Correspondent.)

**HONOUR FOR DR. METCHNIKOFF.**—The Russian Imperial Academy of Medicine has conferred on Dr. Metchnikoff, sub-director of the Institut Pasteur, the title of doctor, "honoris causa."

**THE NEW CODEX.**—The French Codex of 1908 came finally into force on May 15 last, and the wholesale houses here are now filling all orders in accordance with the new requirements. That is as far as is possible, as there are some preparations which cannot be made in the way specified by the new Codex; arrangements are, however, being made to modify this, and modifications are asked for some seventy preparations. A committee of wholesale and retail pharmacists has taken the matter in hand.

**NAPOLEON I. AND SOAP.**—"What great events from trivial causes spring" philosophises M. Pierre Mille in an amusing "chronique" in the "Temps" on the spelling of young Napoleon Bonaparte. Judged by modern orthographical standards, he would certainly have been "plucked" at Brienne; "he would have been sent to Marseilles, where he would have fallen in love and married Mademoiselle Clary—instead of leaving her to Joseph—and he would have become a soap manufacturer." To continue M. Mille's hypothesis to the bitter end, one might add he would possibly have founded a European soap trust, directed against perfidious Albion, and made his name as famous in commerce as it is now in history.

**FAITH-HEALING.**—Jacob the Zouave has long been a somewhat notable Parisian personality. He is now over four-score years of age, and for a long period has acted as a "faith-healer" in Paris. Periodically he is prosecuted for illegal practice of medicine, and he was acquitted of such a charge last Saturday before a Paris Court. The plaintiffs were the Doctors' Syndicate of the Seine Department. In summing up, the Judge set forth that the Zouave received his patients wearing a long white gown, merely looking at them while invoking unseen spirits, and entirely ignoring therapeutics. He put no questions, and simply advised his visitors to abstain from medicine, wine, flesh, and alcohol.



He asked nothing in the way of payment, but merely accepted what was offered, and shook hands with his callers as they left. This, the judgment says, cannot be considered as illegal practice of medicine, and the case was consequently dismissed, with costs against the plaintiffs. Some people say that Jacob plays the "old soldier" rôle, but it appears to be authenticated that he is a veteran of the Crimean War and later campaigns, but has exercised faith-healing for over forty years. He claims to have once cured the late Prince Imperial, and he has a long list of celebrated people who, he claims, have been cured by visiting him.

**WORKSHOP ACCIDENTS.**—The supply of medicaments, etc., to the victims of workshop accidents (under the Employers' Liability Act) was discussed at some length at a recent meeting of the Administrative Council of the General Association of French Pharmacists. In a case tried at Roubaix a Magistrate reduced the amount of a pharmacist's bill. Some speakers pointed out that this might create a dangerous precedent. Others objected that it is notorious that in many cases the pharmacist freely supplies exaggerated quantities of medicaments and practically joins the workmen in making the largest possible profit out of an accident without consideration for the employer. It was generally felt that in such cases the local Association could not always support the case. On the other hand, it would seem that the Magistrate's action, if justifiable, was illegal. A third speaker pointed out that in the Nord department the payment for medicaments thus supplied to workmen is refused on the most trivial pretexts. Opinions were evidently very much divided on the subject, and it was finally referred to the Tariff Committee for further consideration.

**THE DEATH-KNELL OF DIAMONDS!**—Such was an exclamation made by Lemoine, the absconding inventor of artificial diamonds, who appeared as a prisoner in Paris on Monday, May 17. Having broken his bail at the original trial, he was sentenced in default to ten years' imprisonment and to a fine for defrauding Sir Julius Wernher out of 63,000*l.* and another party out of nearly 4,000*l.* Lemoine admitted that the chemical formula he had lodged in a London bank was valueless, and the fact that it was couched in facetious terms was claimed to be merely a precaution against Wernher. Finally, on being pressed by the Judge, the prisoner consented to disclose his formula for making diamonds, preceding his explanation by the words above mentioned, "The death-knell of diamonds is about to sound, and I appeal to science, and not to legal justice." Lemoine then began a lengthy and technical description of his electrical oven-crucibles and other apparatus, as well as of the ingredients he professed to use in making artificial diamonds, which comprised mercury, carbon, and iron. He was evidently bent on making the best defence he could, and explained how the discoveries of Letchling and Moissan had great interest, also why he had endeavoured to follow up their processes in the hope of succeeding where they had failed. The case was adjourned to June 14 at this point, without, it may be added, any serious impression having been produced that the chemical formula of diamonds has been found by Lemoine.

### M. Patein,

President of the Paris Society of Pharmacy for 1909.

The outward aspect of Lariboisière Hospital, just behind the Gare du Nord (the Paris terminus of the Calais and Boulogne lines), is probably familiar to many English tourists. It is one of the newer hospitals as distinguished from the converted convents in which the majority of Parisian establishments of this character are still lodged. The pharmacy is vast and lofty, with an array of slabbed tables imposing in number and cleanliness. An aproned attendant indicated—with his hands full of newly washed glass funnels and test-tubes—the door of M. Patein's private sanctum. There are some men who constantly give one an impression of youth; well as one may know their age. M. Patein's smart figure and alert manner, his face clean shaved but for a slight moustache, his short stature, frank, youthful smile, costume, and bearing, all combine to make one doubt his age. I decided to "confess" him on this point.

"I was born on February 4, 1857," said M. Patein. "A Parisian?" "Yes, almost; my native place is Vincennes, only just outside the fortifications."

"Then you must have become a hospital pharmacist very early? I cannot remember when you were not a 'head.'"

"I was an interne first, of course, in 1879. I took the Internat Gold Medal in 1883, and was appointed head pharmacist at Bichat the same year."

"Then you were head hospital pharmacist at twenty-six? Isn't that rather a record?" "Oh, I don't know," remarked M. Patein deprecatingly; but, having duly hunted through a list of his colleagues, he was obliged to own that he could only find one who was nominated so young. Bichat is only a "third-class hospital," he explained. There are three classes, and naturally beginners are usually appointed to the smaller establishments. But Lariboisière is a "first-class" hospital, and M. Patein has been there since 1886—twenty-three years. It is one of the best known of the Parisian hospitals, being attached to a somewhat populous quarter. "Yes, I daresay you often see the name in the paper," he remarked. "We get those gentlemen from the outer boulevards sometimes." Not that these require much pharmacy; nocturnal affrays, etc., are more in the surgeon's line; but the pharmaceutical staff at Lariboisière is nevertheless one of the largest in Paris.

We drifted back to biography. For a couple of years (1882-4) M. Patein was preparator at the Paris School of Pharmacy—in fact, he sat for the assistant-professors (*aggregation*) examination, and presented a thesis on "The Density of Vapours and their Variations"; but here his connection with the school ended. He took his first-class pharmaceutical diploma in 1883, his M.D. in 1888 with a thesis on "Albuminuria Consequent on Chloroform Inhalations," and his second diploma in 1889. The Academy of Medicine awarded him the Buignet prize in 1891. He has been, by the way, a candidate for membership of the Pharmacy Section of this Academy for the last two years, and will undoubtedly be elected in his turn. He had forgotten when he first joined the Paris Society of Pharmacy; I could personally assure him it was eighteen years ago at least, and a further reference proved the date to be 1887. He is a very active member and constant attendant, and shows the same lively interest in the Society of Therapeutics, of which he was elected Chairman last year. Besides the theses already named, he has published a "Manual of Medical and Pharmaceutical Physics" (a volume of 800 pages), which has been translated into Spanish, and a smaller work on "Purgatives." He is also a regular contributor to the "Journal de Pharmacie et de Chimie" and the "Bulletin Thérapeutique." His numerous original works treat of very varied subjects connected with chemistry, but his researches on biological, physiological, and pathological liquids may be particularly cited, also his notes on urinary albumins, and especially on the properties of serums and blood plasma and the coagulation of blood. He has also written on the analysis of saccharine liquids. M. Patein is typical of the scientific pharmacist, and is a worthy successor of the long line of men who have filled the post of President of the Society of Pharmacy with distinction and added honoured names to the list of notable French scientists.

**HAYTIAN HONEY AND WAX.**—Exports of honey in 1907-8 were 125,616 gals., against 451,428 gals. in 1906-7 and 6,707 gals. in 1905-6; of beeswax the exports were 150,636 lb. in 1907-8, 133,993 lb. in 1906-7, and 149,095 lb. in 1905-6; from Puerto Plata the exports of beeswax were 123,902 lb. in 1908, 129,344 lb. in 1907, and 111,240 lb. in 1906, the exports of honey being insignificant.

**ADVERTISING THE NEW ACT.**—Mr. E. Anstee Turner, 100 and 230 Fulham Road, London, S.W., sends us a copy of a circular which he has issued in typewritten facsimile telling what has happened under the Act of 1908. In this he says:

After many years of strenuous exertion, the Pharmaceutical Society of Great Britain has succeeded in getting a Bill through Parliament by which the public will be enabled to discriminate between the duly qualified chemist (pharmacist), recognised as such and registered by law, and the Limited Liability Cash Chemist and so-called Drug-stores, Ltd., carried on by persons as limited companies under the protection of the Companies Acts, now so strongly in evidence. As from that date neither of these nor any similar stores or limited companies can call themselves pharmacists under severe penalties.

It is hardly necessary to impress upon you the supreme importance that should be attached to the efficient dispensing and preparation of physicians' prescriptions, and, indeed, to the entire manipulation and distribution of drugs and medicinal products, and that only those who are qualified and registered should be entrusted with these important duties. I beg to inform you that my establishments are under my personal supervision, assisted by duly registered pharmacists, and that you may at all times absolutely rely upon the physician's instructions being faithfully carried out. Every drug and chemical used in their preparation at my establishments is guaranteed to be the best obtainable and of absolute purity.

The circular is neatly produced, and will, we daresay, have great influence with some people, but the first part will not sell much more goods, and it gives prominence to company competition, which is not a good advertisement for the individual.



## American Notes.

(From the "C. & D." Correspondent.)

**RESTRICTING COCAINE SALES.**—In the city of Baltimore, Maryland, there is a local Ordinance restricting the sale of cocaine by druggists, and providing for a penalty of six months' imprisonment. The first chemist to receive this rather heroic dose of the law is contesting the constitutionality of the Ordinance on the ground that the penalty is excessive. The case is not likely to succeed.

**QUALIFIED OWNERSHIP.**—Several years have passed now since New York, Pennsylvania, Wisconsin, and Hawaii began demanding graduation in pharmacy from every candidate for registration as a proprietor. The reform was suddenly taken up again this past winter, and Bills with the same object in view have been introduced into the State Legislatures of Michigan and Illinois.

**DISPENSING DOCTORS.**—Bills are before the Massachusetts and Oklahoma Legislatures which aim at preventing physicians dispensing medicine unless they are pharmacists. In the Massachusetts Bill there is a provision which would prevent medical men from receiving commissions on prescriptions dispensed by a pharmacist. Cases of emergency are provided for in a special clause.

**THE UNITED DRUG CO.,** of Boston, making the line of "Rexall" patent medicines, is a co-operative manufacturing organisation, of which the stock is owned by about forty of the largest retail pharmacists of the country. Recently the company purchased a half interest in the largest pharmacy in Detroit, and chemists throughout the country are wondering whether this means a new policy—namely, that of conducting retail stores as well as manufacturing proprietary medicines.

**WHAT IS WHISKY?**—A final ruling has issued from Washington regarding the commercial branding of whiskies. Some time ago ex-President Roosevelt appointed a Special Commission to investigate the situation and to pass judgment on the ruling framed by Dr. H. W. Wiley a year or two ago. This Commission recommended a more liberal regulation, but the President finally decided to stand by Dr. Wiley. Whisky which is made largely of neutral spirit, and containing prune-juice, burnt sugar, and other colouring and flavouring matter, must now be labelled "Imitation Whisky." "Whisky" is a term which can only be applied to "straight" whisky, and the title "Compounded Whisky" must be used in the case of products representing mixtures of "straight" whisky and alcohol.

**U.S.P.**—Dr. Lefman, in a paper before the Philadelphia County Medical Society, contended that the Pharmacopœia had been captured by pharmacists, and should be recaptured by medical men. Professor Remington, criticising Dr. Lefman's remarks, said that it was only when physicians had abandoned the fortress that the pharmacists entered and took possession. He declared that the medical profession wandered from its allegiance to the Pharmacopœia many years ago, and had worshipped strange gods, prescribing proprietary preparations, specialties, and, in some cases, nostrums. This custom, he said, prevails to such an extent that many of the younger physicians do not know what the Pharmacopœia is. Under these conditions it became necessary after the passing of the Food and Drugs Act to organise a propaganda to make the physicians acquainted with the Pharmacopœia, to visit the doctors personally and show them the official preparations with which they should have been perfectly familiar in their daily practice. Professor Remington further stated that in his opinion the destiny of the Pharmacopœia is to become a Government book, and that the Government would undoubtedly revise the work through a commission composed of physicians, pharmacists, chemists, botanists, physicists, importers, and wholesale and manufacturing druggists, who would be selected for their expert knowledge and their recognised ability to perform the work. He said every effort should be made to invoke the aid of every good and honest interest throughout the country to make the work as successful as possible. The part especially required of the physician, he said, would be the forming of titles and determining what drugs and preparations should enter into the Pharmacopœia and what should be dismissed, and to fix doses.

## German News.

**APOTHEKER-MADE GALENICALS.**—The question of the preparation of galenicals in apothecaries' own laboratories will be finally decided at a meeting of the Imperial Health Bureau to be held shortly.

**PHARMACY CONCESSIONS.**—A debate took place at the last two sittings of the Pharmacists' Chamber for Berlin, and Brandenburg. At the first of the two meetings a motion was defeated which proposed that the Chamber should ask the Minister of Public Health to issue an order in connection with the transfer of alienable pharmacy concessions granted before 1904, to the effect that proof should be adduced that the terms of purchase arranged between buyer and seller should not endanger the possibility of the pharmacy yielding a livelihood to the purchaser, and that in case the terms are regarded as too high the fact should be noted so that this price should not be exceeded in the event of the concession being again transferred.

**DRUGGISTS v. PHARMACISTS IN GERMANY.**—The Berlin and Brandenburg Pharmacists' Chamber, to obviate the frequent alleged transgression by druggists of the regulations in regard to trading in medicines, have devised a specific list of preparations on the same lines as that in force in Switzerland, which medicines, it is suggested, should be allowed for general sale. The judgments given hitherto on the subject have frequently been quite conflicting, the sale of such articles as hæmatogen and formamint at present rendering druggists liable to prosecution. The druggists do not approve of the list, since, they contend, it would withdraw from general trade many industrial and household articles, and that its policy is too inconsiderate one of interested persons.

**CHEMISTS' CO-OPERATIVE TRADING.**—The report for 1908 of the Commercial Company of German Pharmacists of Berlin, which has branches at Cologne, Dresden, and Munich, states that the inauguration of the bandage-factory and branch at Dresden took place in January 1908. The turnover of the company during the year amounted to 465,500*l.*, as compared with 365,500*l.* in 1907, and, including the balance forward, the net profits reached 34,975*l.*, as against 26,989*l.* It is proposed to distribute the profits in the form of a dividend in goods at the rate of 5 per cent., according to the value of the goods obtained by the chemist during the year, and as a dividend on capital at the rate of 6 per cent., these comparing with 5½ per cent. and 7 per cent. respectively in 1907. It is intended to place 3,000*l.* to reserve, having regard to the expenses incidental to the removal this year of the headquarters to the new Society House of the Association of German Pharmacists.

**THE ACCOMMODATING PHYSICIAN.**—That it is possible for the manufacturer of a patent medicine to evade the severe restrictions imposed by the German law on that very preparation has just been proved by a Berlin medical journal. A certain number of secret remedies are enumerated in the law regulating the sale of "patents," which may only be sold upon production of a doctor's prescription, and each purchase requires a renewal of the doctor's signature and date. This apparently insurmountable barrier one manufacturer has managed to break down in quite a legal manner—with the help of the medical profession. This is the *modus operandi*: The patient enters the pharmacy and asks for a bottle of the preparation. The apotheker explains the law, and says that he cannot sell it without the required prescription, but if the purchaser will simply writto to the address of Dr. So-and-So, he will at once receive a prescription without further formality or expense. The purchaser writes to the medical man, and, together with a brochure dealing with the preparation, receives a genuine signed and dated prescription written out by a fully qualified physician. In connection with this transaction, it is interesting to note that some months ago the police authorities of Berlin objected to the sale of this preparation on prescriptions emanating from this doctor, as his name and address were not stated on the prescription. He has since rectified this omission. It now remains to be seen whether the German physicians will set the apparatus of their "Court of Honour" against this "perverted" brother.



## South African News.

(From the "C. & D." Correspondents.)

Note.—"The Chemist and Druggist" is regularly supplied by order to all the members of all the Pharmaceutical Societies in British South Africa, viz.:

South African Pharmaceutical Association.  
Pharmaceutical Society of Cape Colony.  
Natal Pharmaceutical Society.  
Transvaal Pharmaceutical Society.  
Rhodesia Pharmaceutical Society.  
Northern District Chemists' Association.  
Pharmaceutical Society of Orange River Colony.

### Cape Colony.

CAPE CHEMICAL SOCIETY.—The annual general meeting of this Society was held on May 1. Mr. Juritz, Senior Government Analyst, presided, and among those present were Dr. Hahn, Dr. Marloth, Dr. Teitz, Mr. G. N. Blackshawe, and Mr. G. Britten. The President, Dr. Marloth, gave an address on "The Chemistry of Some Vegetable Products of South Africa." Dr. Marloth is an authority on this subject. The election of officers and formal business closed the meeting.

### Transvaal.

AGRICULTURAL SHOW.—At the annual exhibition last month, Mr. Alexander Rennie, F.C.S., Imperial Buildings, made a fine exhibit of eucalyptus oil distilled in the Transvaal from the leaves of the blue gum tree grown there. The display included specimens of the leaves and a model still. Mr. John Sachs, of Pretoria, was awarded one gold and two silver medals for the chemical preparations he exhibited.

NEW BUSINESS.—Mr. J. Christie, chemist and druggist, has opened a new branch at the Square, Llanlaagte Village, under the management of Mr. J. M. Anderson, chemist and druggist. Mr. Christie left Paisley, Scotland, for South Africa as a dispenser in the R.A.M.C. during the Boer war, and commenced business at the Tram Terminus, Fardsburgin, in May 1907. Mr. Anderson, his manager, is a native of Alva, N.B.

"CHEMISTS WHO KILL," is the title of a stupid article in the "Transvaal Critic." This article professes "to expose the scandalous methods of chemists who endeavour to take advantage of their customers' ignorance." The exaggerations and misstatements in the article will probably only have the effect of disgusting the intelligent reader. The "Critic" followed this up with an article entitled "The Chemist's Back Room." A chemist is accused of trafficking in instruments for procuring abortion, and various "drug dispensers" are accused of administering draughts for the same purpose.

## The Week's Poisonings.

SEVEN suicides by means of poisons have been recorded during the week.—Dr. Ernest Ehrich, of Basle, used mercury cyanide at Dalston as a lethal agent for suicidal purposes.—The jury found that Edward Tucker, of Bristol, whose body was found in Weston Woods, committed "suicide by taking morphia."

—Joseph Wm. Clarke (36), tailor, Seymour Street, London, N.W., died from the effects of carbolic-acid poisoning.—David Nicholson (71) committed suicide at North Shields by taking a quantity of Corporation disinfectant fluid.—Hannah Tubb (59), housekeeper, Mitre Court, London, E.C., poisoned herself by taking spirit of salt.—Helen Honeyman (34), the wife of a Kirkcaldy painter, died from the effects of drinking a quantity of ammonia.—A solution prepared by soaking match-heads in water was used for suicidal purposes by Elizabeth Revell (24), at Mansfield.

THE exports of copaiba from Ciudad Bolivar during 1908 amounted to 20,211 kilos., valued at 1,911*l.*, against 17,949 kilos., valued at 1,902*l.*, in 1907.

A WOMAN RAN INTO A CHEMIST'S SHOP in an Eastern country town recently, and after a pause for breath inquired what to do, as her child, aged three, had drunk the contents of a bottle of Veno's Lightning Cough-cure. The chemist asked where it was purchased, and the woman replied, "At the Star Grocery Stores." The chemist's suggestion that she should consult them on the subject was just if not charitable.

## Legal Reports.

### Medicine-stamp Act, 1812.

#### REBOTTLING GLYCO-THYMOLINE.

At the Old Street Police Court, London, before Mr. Biron, on May 27, Mr. Sam Briggs, chemist and druggist, Hoxton Street, Hoxton, was summoned under Section 2 of this Act, at the instance of the Board of Customs and Excise, for selling a dutiable medicine without the same being duly stamped in accordance with the duty payable. The medicine sold was glyco-thymoline, and the evidence for the prosecution showed that on February 3 and March 2 an agent of the supervisor and the supervisor himself purchased from a manager of the defendant sixpennyworth of glyco-thymoline, which was taken from a properly stamped bottle, and placed in an ordinary phial and delivered to the customer unstamped. Mr. Biron elicited that it was taken from a shilling bottle, and the defendant had been selling for 2*s.* that on which duty for one shillingsworth only had been paid, so that he would be defrauding the Excise of the stamp-duty on one shillingsworth.

Mr. Lewis Margetts, for the defence, showed that the bottle which the glyco-thymoline was taken from bore the remains of the stamp which had been placed thereon by the wholesale vendors, and contended that the question was as to whether the one stamping covered the whole of the quantity even when divided for retail purposes. He mentioned the fact that Beecham's pills, on boxes of which a similar Excise stamp had to be placed, were habitually opened and retailed in pennyworths in the poorer districts, and had been so for years past, and no question, such as the present one, had ever been raised. If a mistake had been made, it had, he contended, been made in good faith. For the prosecution, Mr. Cope, supervisor, was called and said that the assistant who supplied him with sixpennyworth remarked, as he poured it from the larger bottle, that when doing that they evaded the law. In answer to further questions, witness said that the defendant's premises were visited in consequence of complaints made to the Excise authorities that the defendant was selling glyco-thymoline in unstamped bottles, and that when taxed by the witness the assistant refused to give him his name. Cross-examined by Mr. Margetts, the witness replied that the assistant did not say that glyco-thymoline was sold both as a drug and as a mouth-wash and dentifrice. The witness, however, admitted that it was so sold, and that when put up in the latter forms it does not require a stamp. Mr. Biron found the charge proved, and remarked that it was evidently a deliberate and systematic attempt to evade the law. He fined the defendant 5*l.*, and 4*s.* costs, on the first summons; the second being withdrawn.

### Sale of Food and Drugs Acts.

#### SWEET SPIRIT OF NITRE.

At Skipton, on May 22, Jas. Green, grocer, Silsden, was fined 2*s.* 6*d.*, and costs, for selling sweet spirit of nitre, 33 per cent. deficient in nitrous ether. The Chairman advised the defendant not to stock the drug.

## Arrangements.

CORNELIUS MANNIN, Pharmaceutical Chemist, 2 Great Brunswick Street and 110 Great Britain Street, Dublin.—Petition for arrangement accompanied by the customary affidavit of assets and liabilities. Dated May 25, filed May 28. Secured or partly secured creditors' claims 1,400*l.*, unsecured 1,800*l.*, estimated net assets 425*l.*

JAMES CORCORAN, Pharmaceutical Chemist, 75 Talbot Street, Dublin.—The net assets are estimated to realise 295*l.*, the liabilities amount to 1,115*l.*, and the claims of preferential creditors 60*l.* At a meeting of the creditors in Dublin last week an offer was made of 5*s.* in the pound, but a resolution was passed agreeing to accept 7*s.* 6*d.* in the pound, as follows: 5*s.* in cash and the balance in two instalments at three and six months from date of confirmation.

THE imports of chemicals, drugs, and perfumery into Coquimbo, Chile, during 1908 amounted in value to 3,135*l.*, against 15,600*l.* in 1907 and 4,370*l.* in 1905.



## Gazette.

### Partnerships Dissolved.

SAMPSON, H. M., and GRIMMER, G. K., surgeons and physicians, Ritherdon Road, Upper Tooting, London, S.W., under the style of Sampson & Grimmer.

WELLS, C. H., and REASIDE, J. A., medical agents, Adelphi, London, W.C., under the style of The Medical Agency.

### The Bankruptcy Acts, 1883 and 1890.

#### RECEIVING ORDER.

BISHOP, GEORGE HARRY, Wimbledon, Surrey, doctor of medicine.

### Liquidation]

NON-INFLAMMABLE BENZINE SYNDICATE, LTD.—Liquidator's report at meeting at 28 Basinghall Street, London, E.C., on July 7, at noon.

## New Companies and Company News.

The letters P.C. mean Private Company within the meaning of the Companies Act, 1907, and K.O., Registered Office.

BLANCHE & JEANNETTE, LTD.—Capital 1,000*l.*, in 1*l.* shares. Objects: To carry on the business of chemists, druggists, drysaliers, etc. The first directors are Miss A. L. Blanche, Mrs. L. S. Wilkinson, and C. A. Allender. R.O., 56 Maddox Street, Bond Street, W.

RIMLERS, LTD. (P.C.).—Capital 5,000*l.*, in 1*l.* shares. Objects: To carry on the business of manufacturers of and dealers in oils, ammonia, oleaginous and saponaceous substances and all kinds of unguents and ingredients, pharmaceutical manufacturers, general chemists and druggists, etc. R.O., 109 Victoria Street, Westminster.

SAVONNERIES & PRODUITS "PRINA" LTD.—Capital 40,000*l.*, in 39,000 preference shares of 1*l.* each and 20,000 deferred shares of 1*s.* each. Objects: To carry on the business of manufacturers of and dealers in soaps. The first directors are Comte Joseph de la Myre Morry, F. H. G. Herbout, G. A. Bertrand, A. E. H. Gilboy, J. B. M. A. Misine, and G. L. Lambla. R.O., 3 East India Avenue, E.C.

JOHANNIGMANN BROS., LTD. (P.C.).—Capital 1,500*l.*, in 1*l.* shares. Objects: To adopt an agreement with A. Johannigmann, and to carry on the business of manufacturers of and dealers in ointment-pots, plain and decorated bottles with celluloid or metal caps, patent covers of porcelain and metal or metal and celluloid combined, decanters, pill-tubes, etc. The first directors are A. Johannigmann and Dr. G. W. B. Marsh, B.A. (Lond.). R.O., 80 Finsbury Pavement, E.C.

INFUSORIAL EARTH CO., LTD. (P.C.).—Capital 20,000*l.*, in 3,600 preferred ordinary shares of 5*l.* each and 8,000 deferred ordinary shares of 5*s.* each. Objects: To adopt an agreement with W. Kay and to carry on the business of miners, refiners, distillers, and manufacturers of and wholesale and retail dealers in infusorial earths, chemical-manufacturers, chemists, druggists, etc. The first subscribers are H. C. Rigaud, Strathmore, Surbiton, Surrey, gentleman, and W. Kay, Standish House, Edge Lane, Stratford, Manchester.

TAYLOR, BRAWN & FLOOD, LTD. (P.C.).—Capital 10,000*l.*, in 1*l.* shares. Objects: To take over the business of chemists, druggists, and aerated and mineral water manufacturers carried on by J. B. Taylor, H. S. Brawn, and F. Flood at Bedford and Kempston, Beds, as "Taylor, Brawn & Flood." The first directors are J. B. Taylor, Ph.C.; H. S. Brawn, chemist and druggist; and F. Flood, chemist and druggist (all permanent, special qualification 500*l.*). Qualification of ordinary directors, 200*l.*. Remuneration of permanent directors, 200*l.* each per annum. R.O., 69A High Street, Bedford.

PROSET, LTD.—In our abstract of the Official Receiver's statement (*C. & D.*, May 29, p. 323) the name of Messrs. Kilner Bros., Ltd., was given in error for Messrs. John Kilner & Sons. We understand that Messrs. Kilner Bros., Ltd., are in no way connected with or affected by the matter of Proset, Ltd.

J. LLEWELLYN & CO., LTD., SHANGHAI.—The profit-and-loss account for 1908 shows a credit balance of \$12,846, out of which the directors recommend a dividend of \$7.20 per share on 1,200 shares (\$8,640); to write off 10 per cent. depreciation on aerated-water plant, \$188; to write off 10 per cent. depreciation on furniture and fixtures, \$640; to carry forward to 1909 account \$3,376. At the annual meeting the report and accounts were adopted. Mr. H. J. Such was re-elected a director.

VOELKEL & SCHROEDER, LTD., SHANGHAI.—Mr. O. Menser, who presided at the annual meeting, said that the turnover for 1908 showed a considerable improvement on the previous year. Bad debts were considerably less and the difference in those two items explained the larger amount they had been able to carry forward to credit of profit-and-loss account. The cash sales were better than in the preceding year; in fact, they seem to form an increasingly large percentage of the company's turnover.

GERMAN CHEMICAL DIVIDENDS.—At the meeting of the Bayer Co., held at Elberfeld, it was intimated that considerable progress had been made with the transfer of the plant from Elberfeld to Leverkusen. The intention was to manufacture all the dyestuffs at Leverkusen, confining the Elberfeld works to the production of pharmaceutical products. Rapid strides were being made with the main plant for the production of artificial nitrates in Norway, the company having purchased rights over about 400,000 h.p. The annual output with 120,000 h.p. would be about 80,000 tons of nitrate, so that even if the full 400,000 h.p. was utilised the production would only amount to about 250,000 tons, a quantity so small that the effect on prices would not be appreciable.—The report of J. D. Riedel, Akt. Ges. Chemische Fabrik, Berlin, for 1908, states that after the sum of 126,472*m.* had been written off and 86,600*m.* deducted for arrears, a preference dividend is announced of  $\frac{1}{2}$  per cent., and a dividend of 12 per cent. on the ordinary shares, as in the previous year. The sum of 143,680*m.* was carried forward.—The Deutsche Gold und Silber Scheide-Anstalt Frankfurt announces a dividend of 33 per cent. for 1908, as against 30 per cent. in the previous year.

INTERNATIONAL SPONGE IMPORTERS, LTD.—The report for the year ended December 31, 1908, states that the net profit, after providing for all outgoings and depreciations, amounts to 7,953*l.*, which, with the balance from last account of 1,868*l.*, makes 9,822*l.* Deducting the amount of the interim preference share dividend paid July 1, 1908, 3,750*l.*, the amount of interim dividend of 3 per cent. upon the ordinary shares, paid July 1, 1908, 5,007*l.*, and the reserve for income-tax, 144*l.*, there remains a balance of 920*l.* Owing to serious defalcations by some of the employees of the Cresswell Bros. branch the profits have been very adversely affected, and, in addition, the defalcations at the branch in question and expenses in connection therewith amount to 4,072*l.* The loss arising from the defalcations and liquidation of the Brussels branch amounts to 8,242*l.*, making a total loss of 12,314*l.* to be provided for. The directors propose to appropriate toward this loss the amount (4,674*l.*) standing to the credit of reserve, and the balance of profit and loss (920*l.*). There will then remain a deficiency (after providing the final preference share dividend, which was paid on January 1, 1909) of 10,470*l.* The present directors have volunteered to bear the whole of this deficiency by surrendering 10,470 fully paid ordinary shares of 1*l.* each, and by this action they hope to enable the company to assume a dividend-paying position. Mr. E. J. J. Cresswell and Mr. A. G. Cresswell having retired from the board, negotiations are in progress for their engagement as managers at the Cresswell Bros. branch.

BRUNNER, MOND & CO., LTD.—The annual meeting was held in Liverpool on May 28, the chairman (Sir John Brunner, M.P.) presiding. In moving the adoption of the report (see *C. & D.*, May 22, p. 776), the Chairman said there was an increase in the total of directors' fees, office salaries, and auditing of 1,306*l.*, but the present amount of 39,369*l.* was not at all extravagant for the extent of the business. There was a net decrease in the profits of 40,800*l.* In the coming twelve months the price of fuel would be less than last year, and, what was more to the purpose, it would be reduced by the reduction in consumption, as they were now able to make a ton of coal do about three times the duty that it did when they commenced business. In regard to the balance-sheet there was an increase in capital expenditure of about 180,000*l.* That, of course, included the big purchase from the Salt Union. They had reduced their investments by 31,000*l.*, and they had 8,000*l.* less in stocks, which was not at all an unsatisfactory figure. Adverting to the report, and especially to the amount put to suspense account, Sir John said they had always conducted their business affairs in a very conservative fashion. They now asked the shareholders to provide for coming expenditure in the direction of the further continuous modernisation of their works and the making of them capable of a larger production. Dr. Hewitt seconded, and the report was adopted. Dr. Hewitt and Messrs. A. Mond, Gustav Jarmay, E. S. Mond, and T. H. Forgan were re-elected directors. Messrs. John Isaac Watts and Henry Glendinning, each of whom has been in the company's service for upwards of twenty-five years, were elected directors. Mr. J. F. L. Brunner, M.P., in proposing a vote of thanks to the staff, said the rate of improvement and progress in their manufacture was as great as it had ever been in the history of the company.



## Births.

**BROWN.**—At 1 Glenorchy Terrace, Edinburgh, on May 27, the wife of D. Rainy Brown (Messrs. J. F. Macfarlan & Co., Edinburgh and London), of a son.

**CHRISTOPHERSON.**—On June 1, at 67 Lee Road, Blackheath, S.E., the wife of Henry Clifford Christopherson (21 Mincing Lane, E.C.), of a son.

**MARSHALL.**—At Blanquettes Avenue, Worcester, on May 30, the wife of A. E. Marshall, chemist and druggist, of a son.

## Marriage.

**WALTERS-COX.**—At All Saints' Church, Kilvey, Swansea, on June 2, by the Rev. J. G. Mathias (vicar) and the Rev. D. A. Thomas, the Rev. Thomas William Walters, M.A., to Emmeline Florence, youngest daughter of the late Captain Cox, and niece of Mr. John Davies, chemist, High Street, Swansea.

## Deaths.

**CROOK.**—At 19 West Cliff, Preston, on May 28, Mr. Arthur Williams Crook, chemist and druggist, formerly in business at Liverpool, aged fifty-four.

**DAVIES.**—At Walter Road, Swansea, on June 1, Emily, the wife of Mr. J. T. Davies, chemist, aged forty-one.

**ELLIS.**—At Flint, on May 26, Mr. J. W. Ellis, who recently took over the business of the late Mr. Owen W. Jones, chemist and druggist, Church Street, Flint.

**GATHERGOOD.**—At his residence, Aylmer Hall, Tilney, near King's Lynn, Norfolk, on June 1, after a long illness patiently borne, Benjamin William Gathergood, M.D. (retired), aged fifty-seven. Dr. Gathergood was the owner of a well-known herb-farm, and manufactured preparations of English herbs.

**HALL.**—At Bournemouth, on May 9, Mr. Lennox Harper Hall, chemist and druggist, aged thirty-five.

**HAMILTON.**—At East Street, Blandford (Dorset), on May 21, Mr. Julius Hamilton, chemist and druggist, aged eighty-seven.

**LEWIS.**—At Plymouth, on May 26, Mr. Isaac Thomas Lewis, formerly Registrar-Treasurer of the Ontario College of Pharmacy, aged eighty-two. Mr. Lewis was the son of Mr. George Lewis, grocer, King Street, Plymouth, and served his apprenticeship with Mr. Smith, chemist, Old Town Street, who was noted for medical pastilles, and succeeded him in partnership with Mr. Charles Fox Hinton. In 1855 he emigrated to Canada, obtained a situation with Mr. Hooper, of King Street, Toronto, and was offered a partnership. After a few years he opened a new pharmacy at the corner of Carlton and Young Streets, and made it a great success.



MR. I. T. LEWIS.

He sold the business to Messrs. Shapter & Jeffery in 1887, retired, and came to Plymouth for a holiday. On returning in 1888, he accepted, at the unanimous request of the Council of the Ontario College of Pharmacy, the position of Registrar-Treasurer, and the present flourishing condition of the College is largely due to his wise guidance. He retired in June 1906, and returned to Plymouth, where he renewed many old acquaintances and made numerous new friends. His death was due to heart-failure, after four hours' illness.

**MOORE.**—At Braintree, Essex, on May 23, Mr. Charles Wm. Moore, chemist and druggist, aged eighty-three. Mr. Moore, who was a native of Shalford, was in business

at Cheltenham and Chelmsford prior to going to Braintree fifty-five years ago.

**OLDFIELD.**—On May 27, Mr. Henry Oldfield, J.P., chemist and druggist, Mottram Road, Hyde, Cheshire. The deceased gentleman was in business in Market Street for many years, and retired several years ago. He was a member of the Stockport Guardians, and chairman of the Hyde Gas Co.

**SYME.**—At 4 Comely Bank Place, Edinburgh, on May 31, Mr. George Frederick Syme, chemist and druggist, aged twenty-eight.

**WALKER.**—At 16 Clifton Road, Crouch End, N., on May 20, Caroline Emma, the beloved wife of Mr. George Walker, 2 Bath Street, E.C.

**WHITE.**—At Birmingham, on May 30, Mr. Sydney Bowring White, chemist and druggist, 172 Bromsgrove Street, Birmingham, aged forty. Mr. White, who suffered from a weak heart, died under circumstances which necessitated an inquest, and the jury found that death was due to heart-failure, probably from the after-effects of a dose of laudanum.

## Recent Wills.

The dates in parentheses refer to the issues of "The Chemist and Druggist" in which the deaths of the testators were reported.

THE LATE MR. KENNETH MACDONALD, chemist, Dunkeld, left estate valued at 1,000*l.* 9*s.* 8*d.*

MR. HENRY LITHERLAND, Palm House, Bispham, Parbold, Lancs, retired chemist and druggist, left estate valued at 4,447*l.* 1*s.* 11*d.* gross, with net personalty 3,432*l.* 8*s.* 9*d.* (C. & D., September 19, 1908, p. 442).

MR. CHARLES BRADLEY, of Reading, Berks, pharmaceutical chemist, left estate valued at 15,761*l.* 3*s.* 1*d.* gross, with net personalty 4,183*l.* 2*s.* (C. & D., March 27, p. 487).

MR. JOHN LAWRENCE MOXON, 252 Park Road, Liverpool, chemist and druggist, left estate of the gross value of 750*l.*, with net personalty *nil* (C. & D., May 8, p. 762).

MR. EDWARD JOHN CLARK, Malvern Wells, Worcester, chemist and druggist, left estate valued at 1,797*l.* 13*s.* 8*d.* gross, with net personalty 910*l.* 15*s.* 11*d.* (C. & D., March 20, p. 453).

MR. WILLIAM MASSEY, of the County Asylum, Lancaster, formerly in business as a druggist and drysalter in Damsidex Street, Lancaster, who died on April 20, left estate valued at 94*l.* 15*s.* 8*d.* gross.

THE LATE MR. JULIUS CÆSAR CZARNIKOW (otherwise known as Caesar Czarnikow), of 103 Eaton Square, S.W., and of 29 Mincing Lane, E.C., sugar and colonial broker, left estate of the gross value of 701,117*l.*, of which the net personalty has been sworn at 696,848*l.* (C. & D., April 24, p. 645).

MR. CHARLES EDWARD WILKINSON, 5 Windsor Terrace, Newbiggin-by-the-Sea, Northumberland, agent in the Newcastle district for Messrs. J. & J. Colman, Norwich, who died suddenly in a train on April 23 last, aged sixty-seven, left estate valued at 3,738*l.* 4*s.* gross, with net personalty 2,797*l.* 13*s.* 3*d.*

MR. JAMES BUCHANAN, 3 Oswald Road, Edinburgh, formerly senior partner in the firm of Messrs. Duncan, Flockhart & Co., of 6 North Bridge, Edinburgh, left personal estate valued at 23,818*l.* 11*s.* 2*d.*, of which 20,275*l.* 16*s.* 2*d.* is in Scotland. The trustees of his deed of settlement, dated April 24, 1878, are Mr. George Morham, Edinburgh, surveyor; Mr. R. R. Simpson, Edinburgh, writer; Mrs. Jessie Morham Buchanan, widow of the deceased, and Mr. Robert Buchanan, both of 3 Oswald Road, Edinburgh; and Mr. John Smart, Edinburgh, writer (C. & D., March 27, p. 487).

## Business Changes.

Properly authenticated business notices (not being advertisements) are inserted in this section free of charge if promptly communicated to the Editor.

MESSRS. HOLLINGSBURST & Co., chemical merchants and importers, have removed from 127 to 112 Fenchurch Street, London, E.C.

MR. ALBERT ROTHSTEIN, chemist and druggist, will open a new pharmacy at 101 North Street, Leeds, when the alterations on the premises are complete.



## Trade Notes.

MESSRS. BURROUGHS WELLCOME & Co. presented the foreign members of the Seventh International Congress of Applied Chemistry with a souvenir map and guide to London, neatly bound in blue leatherette with gold edges.

DAYLIGHT SAVING.—Messrs. Geo. Curling, Wyman & Co., 58 and 59 Bunhill Row, London, E.C., who tried the experiment last summer of beginning business an hour earlier and leaving off at 5 o'clock, are satisfied with the result, and are adopting the same hours this year during the summer months.

MESSRS. COLEMAN & Co., LTD., of Norwich, inform us that they have had such a large number of applications for their road maps of Great Britain, which we mentioned a fortnight ago, that it is at present impossible to send supplies to chemists for distribution among their customers, but this will be done as soon as possible.

HUGE SOAP CONTRACT.—The Admiralty has placed a contract for 37,622 cases (each containing 104 tablets) of yellow soap with Messrs. Edward Cook & Co., Ltd., soap specialists, Bow, London, E. The firm believe this to be the largest order of the kind ever given to one firm. The tablets if placed end to end would reach from London well into Scotland.

THE THERMOS FLASK is now regarded as one of the most striking scientific achievements, specially appealing to chemists, since it embodies a principle which has made observations at low temperatures more possible. The flask preserves hot or cold liquids contained in them practically at the temperature they are put in, and this lasts for twenty-four hours at least. The flasks are now offered for making lactonised or sour milk, the directions being:

Heat your milk to a temperature from 105° to 110°—pour into Thermos flask with one tablet of lactic acid and a spoonful of sugar. Allow the milk to stand from ten to twelve or more hours, and perfect lactonised milk is the result.

The flasks sell at 21s. and 31s. 6d. each, yielding a good profit; and Messrs. A. E. Gutmann & Co., 8 Long Lane, London, E.C., will be glad to answer inquiries by *C. & D.* readers.

WINTERGREEN TOOTH-PASTE.—A novelty in the tooth-paste series of Messrs. S. Maw, Son & Sons, 7-12 Aldersgate Street, London, E.C., is Wintergreen Tooth-paste. The white paste is of nice consistence and perfectly smooth, and possesses the piquant and persistent fragrance and taste of wintergreen presented in a pleasant form. It is put up in the usual faultless style in neat white covered pots, with black and white burnt in labels, and we give a reduced facsimile of the pot. The whole-



sale price is 3s. 9d. per dozen pots, to retail at 6d. each. Chemists wishing for further particulars should write to headquarters at Aldersgate Street.

SODIUM CITRATE TABLETS.—The Standard Tablet and Pill Co., of Hove, inform us that a large demand has sprung up for tablets of sodium citrate for adding to the milk given to children, to prevent the formation of an indigestible curd. This is in consequence of a paper which appeared in the "Medical Press and Circular" in March; but we may recall the fact that five years ago Dr. F. J. Poynton, of the Hospital for Sick Children, communicated a paper to "The Lancet" on the subject, which we abstracted at the time and subsequently gave some special information in regard to the use of the citrate. Dr. Poynton prescribed 1 to 3 grains to be added to each feed, consisting of two tablespoonfuls of milk and two of water, given every two hours. He commenced with a 1-grain dose and increased it where necessary to 2 grains, but rarely more (see *C. & D.*, October 29, 1904, p. 722). It now appears that a 20-grain tablet dissolved

in a tablespoonful of water is added to half-pint of milk, but we should think that such a large dose in one feed is undesirable, and perhaps not intended. The Standard Tablet and Pill Co. also recognise this by producing tablets each containing 5 grains, 10 grains, 15 grains, or 20 grains of the citrate, and they advise the smallest tablet to be started with.

## Personalities.

MR. G. S. DUNN, chemist and druggist, 100 High Street, Deal, Kent, has been reappointed a member of the local Education Committee.

MR. M. BARKER, second son of Mr. A. W. Barker, pharmacist, Wrexham (late of Fulham, S.W.), has passed the qualifying examination in dental surgery for the L.D.S. diploma of the Royal College of Surgeons. He has been appointed house surgeon at the Royal Dental Hospital, Leicester Square, W.

By the retirement of Mr. Kenric B. Murray from the secretaryship of the London Chamber of Commerce, which he has held since 1882, the Chamber is losing a much-respected officer. The Council of the Chamber have done wisely by appointing as his successor Mr. Charles E. Musgrave, who also joined the staff in July, 1882, and has been assistant secretary since 1884. Mr. Musgrave has been closely identified with the Chamber's Parliamentary work, and has specialised therein. He has also had exclusive charge of the Manufacturers' Section (of which Mr. David Howard was the first chairman) and several other trade sections; also the London Labour Con-



MR. MUSGRAVE.

ciliation and Arbitration Board (of which Sir S. B. Boulton, Bart., has been chairman from the first) and the Timber Trade Federation of the United Kingdom. Some years ago he regularly attended the meetings of the Chemical Trade Section, and in his new position will again have opportunities of being actively interested in that Section's work. He has had experience of all departments of the Chamber's work. Mr. Musgrave is a good speaker on commercial questions, and writes fluently. He is joint author of a work on the Factory Acts.

HAYTIAN DIVI-DIVI.—The low price obtained for this article in the last two years has reduced its exportation from Hayti to very low figures, and the little care taken of the divi-divi trees is another and more powerful cause of impaired production.

MEDICINES IN EGYPT.—The demand for medicines among the Egyptians has increased, the total imports in 1907 rising from E.75,611l. to E.78,602l. in 1908. France has the largest trade, and England is second with E.2,086l., against E.17,996l. in 1907.

PROPRIETARY MEDICINES of American manufacture comprised almost half of the receipts of the imports into Santo Domingo, under the heading of "chemicals, drugs, and dyes," last year; the total imports under this head amounting in value to \$96,388, against \$79,260 in 1907, the increase being to the advantage of the United States and France.



## "May-Roberts."

THE announcement was made in our issue of May 22 of the conversion of the business of Messrs. May, Roberts & Co. into a private limited liability company. This has been done for family and private reasons. It is nevertheless appropriate to recall the fact that the foundation of the



MR. SAMUEL ROBERTS.

firm lay in the acquisition by Mr. Samuel Roberts, in 1874, of Messrs. Dixon, Dean & Co.'s business, 14, 15, and 16 Cow Cross Street, Smithfield, London, E.C. This business, which was principally in perfumery, was originated at



MR. C. ROBERTS.



MR. F. ROBERTS.

Islington by Mr. Wm. Dixon. The first six years' trading at Cow Cross Street (1874-1880) resulted as Mr. Roberts tersely put it to a *C. & D.* representative—"We made no money." The bold expedient of dismissing the firm's five travellers was resorted to; "consequently," added Mr.



MR. A. T. WEBB.



MR. STEWART.

Roberts, "most of the customers forsook us, and many predicted an early grave, but the business has never gone back since—always forward." The firm advertised in the *C. & D.* The following chronicle shows how the business has grown:

1883. Removed to larger premises at 9 Clerkenwell Road, of which May, Roberts & Co. were the first tenants.

1885. The premises were burnt out in the great Clerkenwell fire on October 8, when forty-two firms were affected and 5,000 hands thrown out of employment. The following day Mr. Roberts had advised his customers that he had hired a warehouse in Moor Lane, City of London (*C. & D.*, 1885, p. 607).

1886. Re-entered premises at 9 Clerkenwell Road.

1893. Premises doubled by adding No. 11 Clerkenwell Road.

1902. Dublin branch opened in Westmoreland Street and second floor of No. 13 Clerkenwell Road added.

1904. Top floor of No. 13 added.

1905. First floor of No. 13 taken over.

1907. Dublin premises doubled.

1908. No. 7 Clerkenwell Road added and fittings throughout modernised (*C. & D.*, 1908, II., p. 126).

Mr. Samuel Roberts, the founder of the firm, who continues to look after the interests of the company's customers as managing director, is responsible, through his energy, enterprise, and originality, for much of the success, and the principle on which the business is conducted is too well known to our readers to require further comment. Mr. Roberts has also turned his ability and acumen to public account, as his keen interest in postal reform, especially in connection with the halfpenny postal packet, has had much influence in obtaining concessions of great value to commerce. Of his co-directors, Mr. W. C. Stewart is the manager of the London establishment. He joined the firm in 1897, after obtaining commercial experience on the Continent. Mr. Ashley T. Webb has been with the firm since leaving school in 1895. He is responsible for the home correspondence and the "patent-medicine" department. Mr. Calvert Roberts is the Dublin manager, and, together with his brother, Mr. Frank Roberts, commenced with May, Roberts & Co. by opening the Dublin branch in 1902. The conduct of the business will in no way be changed, and May, Roberts & Co., Ltd., will endeavour to continue the past pleasant relationship with their customers.

## How to Treat Travellers.

1. Traveller after traveller comes into the shop; the day is far advanced and not a stroke of your regular shop work has been touched. Is it polite or etiquette to tell a man, who you know may have come to the town specially to see you, that you cannot be seen?

2. You are working single-handed. A prescription is brought in and promised for fifteen minutes. Immediately a traveller walks in, and, seeing no customer in the shop, starts to talk and unpack samples. Is it the proper thing to tell the traveller that his presence is inconvenient, or to let the customer wait when the medicine is called for?

THESE questions were put by a Chemist in the *C. & D.*, May 15, and we invited replies, which we are now printing week by week.

I would suggest that a short series of cards for presenting to travellers be compiled, the working being arranged according to individual requirements. For example, card No. 1 might read:

I respectfully beg to inform you that owing to stress of urgent business I am unable to examine your samples to-day, and it will be to our mutual advantage if you will kindly terminate this interview. It will be esteemed a favour if you will pay me a call on your next journey.

One of the advantages of this system is that a card could be presented even while you were engaged with a customer, thus saving the traveller's time. There is no doubt that most keen travellers would appreciate this method. The manner of dealing with the aggressive type is obvious.—STILLINGIA.

1. Give traveller a duster and let him dust front of counter, while you dust the back. You will be ready to see to him in ten minutes.

2. Ask traveller to copy the prescription and write label, etc., while you dispense prescription. You will be ready well under fifteen minutes.—BENJ. PARKER.

1. Politely and firmly refuse to spend time with travellers you are sure have no lines to interest. Order at once from your usual man or those you intend to favour, and a polite "good-day" should leave "no feathers" ruffled anywhere.

2. Promised prescription first, traveller second. Good "road" men need only a hint. Never be rude. Remember we are all only mortals. Add tact suff. quant.—FRED. FARMER.



## Agri-Horticultural Poisons.

### Notices of Application

for licences under Section 2 of the Poisons and Pharmacy Act have been lodged with the local authorities named.

Subscribers and others would oblige us by sending information with reference to applications. Copies of newspapers containing the advertisements of applicants would also be esteemed.

**ABERDEENSHIRE.**—Peter Hay, Auchleven; Agnes Giles, Post Office, Uddny; Geo. McPetrie, Kirktown, Skene; G. Hutcheon, Turriff; J. McIntosh, Forque; Thos. Dawson, Newkirk; Wm. Cumming, Hatton, Fintray—all general merchants.

**ARGYLLSHIRE.**—Robt. A. Cavana, Gigha, and J. E. M. Graham, Tarbert, Loch Fyne—general merchants.

**BARNHAM (SUSSEX).**—J. P. Goodwin (Barnham Nurseries, Ltd.).

**BECKENHAM.**—E. Weeks & Sons, ironmongers, 5 High Street.  
**BERWICK-ON-TWEED.**—Wm. Anderson, nurseryman, Ilide Hill.

**BOLTON.**—Dowrick & Sons, general merchants.  
**BROMLEY.**—E. Weeks & Sons, ironmongers, High Street.

**DUMFRIESSHIRE.**—J. Tweedie, Carrutherstown.

**FARINGDON (BERKS).**—Walter Tucker, nurseryman.

**FORFARSHIRE.**—W. D. Irons (Dd. Irons & Sons); A. Ednie (Ednie & Kinninmouth); J. M. Arnot—ironmongers. J. R. H. Robbie (Bruce & Robbie, seedsmen).

**HAVANT.**—J. H. Street, ironmonger, 11 East Street.

**HERTFORDSHIRE.**—Geo. Paul and G. L. Paul (Paul & Son), Old Nurseries, Cheshunt, and Churchfields Nurseries, Broxbourne; S. Saxon, The Drug-store, Puckeridge; A. T. Mills, agricultural merchant, Hatfield.

**KILMARNOCK.**—Dickie Fowlds & Co., Ltd., seedsmen, 9 St. Marnock Street.

**LANARKSHIRE.**—J. Somerville, ironmonger, Shotts.

**LEYLAND (LANCS).**—R. Higham, nurseryman.

**LICHFIELD.**—R. F. Jacks, nurseryman, 47 Bore Street.

**LINCOLN.**—J. Jekyll (Jekyll, Glasier & Co., manufacturing chemists), Carholme Road and The Arcade, Cornhill.

**MELROSE.**—R. McCraw, seedsman, Abbey Street.

**MERIONETHSHIRE.**—Ed. Roberts, ironmonger, Bro Aran, Llanuwchllyn; Robt. Edwards, drug and seed stores, Penrhyn-deudraeth; Thomas Roberts, Shop Isaf, Maentwrog; Lewis Davies, Post Office, Llanuwchllyn; Evan Evans, Post Office, Dinas Mawddwy—general merchants.

**PERTH.**—J. MacLaren (Donald & Co., sheep-dip agents), Glasgow Road Bridge.

**PLYMOUTH.**—Geo. Miller, seedsman, 38 Old Town Street.

**SHETLAND.**—A. C. Hay (Hay & Co), Freefield, Lerwick, and Scalloway; Jas. Abernethy and Thos. Hobbin, Bridge-of-Walls, Lerwick; John Leslie, Sandsound; R. Robertson, Vothead, Weisdale; Wm. Pole, Mossbank and Graven; Jas. Smith, Sullam; Robt. Thomson, Melby, Sandness; J. E. Garrioch, Skekl and Sand; Jas. A. Adie, Voe and Papa Stour; Jas. Roy & Son, Fisherford.

**WELSHPOOL.**—R. Gittins, grocer, Dolanog.

**WEST CALDER.**—J. G. Young, seedsman, Mossend.

### Consideration of Applications.

**BARNSTABLE.**—The Town Council on May 22 considered the application of Mr. J. J. Hamlin, wool merchant, Tuly Street, which a committee had recommended for grant. Councillor White, in opposing the recommendation, said there were seven chemists in the town, of whom two were in business in close proximity to the applicant. After a "breeze" between the Mayor and Mr. White, Councillor Hopper supported Mr. White, as the issue of a licence "would be establishing a precedent." The matter was finally referred back to committee.

**BELFAST.**—The Corporation on June 1 approved of the Police Committee's report to defer consideration of applications for the present. Four more applications had been received. A letter received by the committee from the Pharmaceutical Society of Ireland conveyed their thanks for the reception accorded to a deputation of their representatives.

**BLACKBURN.**—The Watch Committee recommend that a licence be issued to Messrs. J. E. Freeman & Co., seedsmen, 10 New Market Street. A circular was distributed to all the members of the Town Council quoting Mr. Herbert Samuel to show that licences were not intended to compete with chemists where they could sell these articles, and urging that abundant facilities already existed. The signatures of Messrs. Wm. Holt, Edwin Highton, and R. Lord Gifford were appended. The committee arrived at its decision by a majority of five to four.

**HULL.**—The Sanitary Committee of the Corporation recommend the refusal of the applications of three seedsmen (*C. & D.*, May 8, p. 714). The local Chemists' Association objected to the application, and their solicitors, Messrs. Jackson & Co.,

wrote asking the committee to receive a deputation. Several individual chemists also sent in letters of protest.

**KEIGHLEY.**—The Watch Committee recommend that a licence be issued to a local florist.

**MIDDLESEX.**—We reported last week that the Council of this county at the meeting held at Westminster on May 27 referred back to the General Purposes Committee its report on applications by E. C. Ashby, general storekeeper, Harmondsworth, Yiewsley; P. C. Scarborough, seedsman, Potters Bar; J. E. Cater, florist and seedsman, Hendon; J. J. Foster, nurseryman and seedsman, Stanmore; E. Bray & Co., florists, Cricklewood; D. S. Golding, florist, 199 High Road, Kilburn; J. Taplin, seedsman and fruiterer, Uxbridge; and Wm. Wood & Son, Ltd., horticultural sundriesmen, Wood Green, for licences. In the first two cases and the last no opposition was offered, but granting of the licences was opposed by chemists in the other five cases, and the committee submitted a long report setting forth fully the circumstances of each case, which in most instances showed that the chemists in the neighbourhoods deal in agri-horticultural poisons, some, indeed, specialising in them. Incidentally the following remarks were made:

The form of application and licence in the schedule to the Order in Council contains the expression "sell and keep open shop." In Section 2 of the Act, however, the expression is "sell or keep open shop," and this expression is repeated in Regulations Nos. 11 and 17. The same expression is made use of in Section 1 of the Pharmacy Act, 1928.

It has already been decided in the High Court that, under the Pharmacy Act, 1868, the acts of *keeping open shop* for the sale of poisons, and the *selling* of the poisons are separate and distinct operations. It has been held, in the first instance, that, although a limited liability company can keep open shop for the sale of poisons, a company as such cannot perform the act of selling, which must be performed on behalf of the company by a qualified person.

The committee recommended that the reasonable requirements of the public in the neighbourhood of the applicants are not satisfied, therefore that the licences should be granted; but the Chairman of the committee (Alderman Wright) moved that the report should be sent back. Mr. De Salis stated that there were inaccuracies in the report, and unless members had an opportunity of commenting upon it the committee would not be acquainted with the inaccuracies. The Chairman of the committee said he would be pleased if any member who had any information to impart would attend the committee meeting. Mr. Glyn-Jones is Vice-Chairman of the committee, but took no active part in this matter. It is understood that the chemists of Middlesex are moving in the matter, which will not come forward again for another month.

**PLYMOUTH.**—The Watch Committee is to receive a deputation from the local Chemists' Association protesting against six applications, and also another from the applicants.

**ROCHDALE.**—The Watch Committee decided on May 26 to recommend that two applications be granted.

**WESTMEATH.**—The Secretary reported to the County Council last week that the County Inspector of Police refused to give information concerning a list of queries supplied to him. A letter to the Under-Secretary elicited the reply that the police have no duty in the matter, but only to assist in any particular case that may arise. The Secretary stated that thirty applications had been received, but of these he believed twenty-five were invalid, since they are from publicans.

**WICKLOW.**—The County Council on May 26 had before them a large number of applications for licences. The Secretary said that a number of the applicants were disqualified because they held publicans' licences. Mr. E. R. O'Kelly (Chairman) said he had himself applied for a licence, but he withdrew it on getting legal opinion. Mr. Dowling thought if a publican had two houses, with only a licence for one, he ought to be able to get a licence for the unlicensed house. The Secretary repeated that no licensed publican is entitled to sell these poisonous substances. The majority of the cases in which publicans applied were refused; but the Council agreed to grant licences to Messrs. J. J. Dowling (Blessington) and S. V. Delahurst (Wicklow). The Chairman dissented, stating that the Council had no authority to give such licences to publicans.

**WORCESTER.**—The Watch Committee at a special meeting on May 28 decided to recommend the issue of licences to Messrs. J. L. Larkworthy & Co., agricultural engineers, Sansome Place; W. B. Needham & Co., corn merchants, Lowesmoor; White & Sons, Broad Street; and E. J. Parsons, St. Nicholas Street—nurserymen. Messrs. F. J. Hall, F. G. Acton, H. J. Aubrey, and A. E. Coverdale attended on behalf of the local Chemists' Association, with Mr. F. J. Hemming as solicitor. Mr. Beauchamp, for Messrs. Larkworthy & Co., said the firm were continually asked for sheep-dips, etc. He believed Mr. Dobbs was almost the proprietor of the Act which enabled the Council to grant the application. Mr. Dobbs (for Messrs. White & Son) said the prosecution of Mr. White was the cause of a Departmental Committee being appointed. If the Watch Committee granted the present



applications future applicants could be told that the "reasonable requirements are met."—The Town Clerk: That is not what Regulation 5 says.—Mr. Dobbs said, if licences are not granted, the Local Authority would have difficulty in saying that the requirements were met. He had spoken to Mr. Aubrey, Mr. Marshall, and Mr. Acton, and they would as gentlemen admit that the sale of agricultural and horticultural substances was not in their ordinary class of business.—Mr. Aubrey: I should like to give that an emphatic denial.—The Town Clerk: You must not give evidence for other people.—Mr. Dobbs said the chemist was a respectable man, and it was not desired to take away anything he was entitled to. Mr. Aubrey made a weed-killer himself, but the requirements of the district could not be said to be met by leaving the sale of poisonous substances to a chemist who did not stock the special class of weed-killers that agriculturists and horticulturists required, and the remittal of the nurseryman's order to the manufacturer created delay. He submitted that the objecting chemists did not stock the requisite preparations until the Act was passed.—On quoting Lord Crewe as to the intention of the Poisons and Pharmacy Act, the Town Clerk said Mr. Dobbs must prove the intention of the Act from the Act itself, and not from reports of speeches.—Mr. White said if prevented from selling poisonous preparations his turnover would be reduced by 75% in the year.—In reply to the Town Clerk, Mr. Dobbs said that "previous nurserymen had been selling illegally. They had to be extremely careful what they were doing."—The Town Clerk said there was nothing in the Act to prevent Mr. White continuing as he had done previously.—Mr. Parsons said it was necessary for him to sell poisonous preparations which were frequently required at once.—Mr. W. B. Needham spoke to the same effect. In reply to Mr. Hemming, Mr. Needham said the proceeding with applications intimated to the County Council (for Malvern and Charlton) would depend upon the result of the present one. Mr. Needham (in reply to Mr. Dobbs) said the present application was to supply poisonous preparations in Worcester.—Mr. Hemming having raised technical objections to all the applications except that of Mr. Parsons, as they were made out for companies and not individuals, said he did not know whether he need reply to the specious argument of Mr. Dobbs regarding Regulation 5.—The Town Clerk said he should advise the committee not to accept Mr. Dobbs' rendering. Mr. Hemming was willing to call chemists to prove that they were vendors of the preparation before the passing of the Act, but after the Town Clerk's ruling he need not do so. He confidently submitted that with fourteen chemists in the city the reasonable requirements of agriculturists and horticulturists were met.—The Mayor then announced the committee's decision as above.

#### Applications Granted.

**ALYTH.**—G. Gordon and A. Sinclair, both ironmongers.  
**CHESTER.**—The Watch Committee on May 28 recommended for grant the applications of Messrs. Dicksons, Ltd., 108 Eastgate Street, and A. W. Armstrong and Wm. Ferguson (McHattie & Co.), 26 Northgate Street and St. Werburgh's Place. A deputation of the local Chemists' Association, consisting of Messrs. W. F. J. Shephard, J. Simon, T. Carter, J. Milling, R. C. Owen, and D. T. Williams, with Mr. E. Brassey as solicitor, awaited on the committee. The applicants were also represented. At the subsequent meeting of the Town Council Messrs. W. F. J. Shephard, J. H. Hopley, W. Duplock, and D. T. Williams appeared on behalf of the Chester Chemists' Association. Mr. Shephard acted as spokesman on the Poisons and Pharmacy Act and drew attention to Sub-section 2 of Section 2. He quoted Mr. Herbert Samuel and Viscount Hill in support of his contention that the reasonable requirements of the locality were already met, as at least twenty persons in Chester were supplying these poisonous substances, and that licences were unnecessary. He had a technical objection to one of the applications, which was not in order.—The Town Clerk, intervening, said a reply from the Home Office stated that if a licence be issued it should be to an individual member of a firm.—Mr. Ferguson said he had carried on the trade in horticultural poisonous preparations for over thirty years. It was a legal trade, and he had observed all the restrictions.—Mr. Shephard, in reply to a question, said he did not know of a single case where chemists had sent to either firm for poisons.—Mr. Hewitt said, Was it not a matter of fact that only about three chemists in Chester keep the preparations?—Mr. Shephard: I don't believe it.—Alderman W. H. Churton then moved that the matter be referred back for consideration, as, although it was within the Council's discretion to issue licences, there was a proviso attached to the Act.—Dr. Mann supported, but Dr. Griffith wanted "free trade" even in poisons.—The Chairman of the Watch Committee said they found that preference was to be given to facilitate the sale of poisons by horticulturists. The amendment was defeated by eighteen votes to eight, and the committee's minutes confirmed.

**KENDAL.**—In connection with the four applications granted at Kendal (*C. & D.*, May 29, Coloured Supplement) Alder-

man J. Monkhouse, in moving that the applications be granted, said "as a matter of fact the four applicants were entitled to licences. In the statutory orders it was specially stated that preference should be given to the very people whom they were going to prohibit."—Mr. T. A. Watts, in seconding, said he thought the committee had been biased by the chemists waiting upon them while no horticulturists were present.—Alderman W. R. Parker, who wished the applications to be referred back, refuted some of the wild statements.—Mr. Farrer mentioned that Alderman Monkhouse was a clever amateur lawyer, but he had read a good deal into the Act that was never intended. The Pharmacy Act of 1868 was not for the protection of chemists, but for the safety of the public, for whom free trade in poisons was certainly not good. In Kendal the keenness with which chemists competed for the sale of sheep-dips was sufficient proof that the reasonable requirements of the district were met.—Alderman W. Edmondson said plenty of facilities existed; it was the duty of the Council not to grant further licences. Kendal had eight chemists. As already reported, the applications were granted by a majority of one.

**LINLITHGOW.**—The Town Council on June 1 granted the applications of four local ironmongers and seedsmen. Objections were lodged by Messrs. C. M. Spence, Edward Spence, A. Y. W. Wood, and W. W. Spence.

**MAIDSTONE.**—The Town Council considered on May 26 four applications for licences from ironmongers and seedsmen. Mr. H. J. Bracher appeared on behalf of the local chemists (10), whom he contended suffice for the needs of the neighbourhood. Mr. A. J. Ellis, for the applicants, said his clients were able to advise as to the use of horticultural preparations, and the Council unanimously agreed to grant the licences.

**OLD MELDRUM.**—The Town Council at a special meeting on June 1 authorised the Town Clerk to issue a licence to Messrs. A. Duthie & Co., general merchants, after the statutory period had elapsed.

**PERTH.**—Nine applications from ironmongers or seedsmen have been granted (*C. & D.*, May 8, p. 715) at a special meeting of the Town Council on May 22. Mr. John Ritchie, solicitor for the applicants, submitted that for over thirty years, until 1900, there had been practically no attempt to interfere with the trade by ironmongers in dips. The prosecution then instituted by the Pharmaceutical Society created a great agitation, which resulted in the introduction of legislation on the matter. If the applications were refused, farmers could go to unqualified vendors in the country and obtain preparations which they were prevented from securing in towns.—Baillie Macpherson, on behalf of twelve petitioning chemists, pointed out that it was very significant that Mr. Ritchie had not drawn the Council's attention to any clause in the Act. Ironmongers had been allowed to sell sheep-dip in violation of the existing Pharmacy Act, and the recent legislation was to stop this state of affairs. In rural districts there might be no resident chemist, and the Act made provision for this circumstance. The Council must not be influenced by statements of injustice and hardship, while the fact that other authorities had granted the licences was one of the strongest reasons why the Council should not follow the wether which had jumped first in the wrong direction. He submitted that all the applications except one were not in order, since licences could not be issued to a firm, but only to an individual.—Mr. Ritchie contended that a firm was a person in the law, and stated that seven-eighths of the sheep-dips now sold were of the non-poisonous variety.—Baillie Macpherson, saying "Mr. Ritchie had let the cat out of the bag with regard to sheep-dips," advised the applicants to direct their energies to the larger sale of non-poisonous dips.—After consideration in private, the Lord Provost announced that all the applications had been unanimously granted.—Baillie Macpherson asked that his objections be recorded in view of future legal proceedings to have the licences reduced.

**REDHILL.**—W. P. Bound, 112-114 Station Road, and H. & H. Trower, 60 Station Road. Objections were made by the local chemists to the Watch Committee, who recommended the refusal of the applications. The Deputy-Coroner had also written opposing the applications.

**ST. HELENS.**—The Town Council on June 2 confirmed, without comment, the recommendation of the Watch Committee that the application of Mr. Charles Kinns, seedsman, Market Square, be granted. The local chemists had memorialised the Watch Committee, on whom a deputation of chemists had also awaited.

**TIVICNE.**—P. McCullagh, Plumbridge, and B. Gormley, Gortin.

**WREXHAM.**—Henry Rudge, seedsman, 14A Queen Street.

#### Applications Refused.

**DOVER.**—A letter from Messrs. G. & A. Clark, nurserymen, with respect to the refusal of their application, came before the Town Council on May 25. The matter was again reargued and the refusal confirmed by six votes to four.



**LIVERPOOL.**—The City Council has refused the applications for poisons licences. Each Councillor was circularised by the local Chemists' Association.

**PETERBOROUGH.**—A motion before the City Council on May 25 that the refusal of an application (*C. & D.*, May 8, p. 716) be referred back to a committee for reconsideration failed to find a seconder.

**TYRONE.**—John McGoldrick, Castlederg. Mr. R. McCay, pharmaceutical chemist, Castlederg, objected to the application.

### Fees Fixed.

**BARNSTAPLE.**—Licence 10s. 6d.; renewal 1s. 6d.

**CUPAR (Fife).**—Licence 10s.; renewal 1s. 6d.

**MERIONETHSHIRE.**—Licence 10s. 6d.; renewal 1s. 6d.; inspection of register 1s.

**ST. HELENS.**—Licence 10s. 6d.; renewal 1s. 6d.

## Optical Observations.

By A Chemist-Optician.

### Fitting Folders.

The fitting of folders and astigmatic clips is a part of the chemist-optician's work, which is sometimes not so carefully attended to as it might be. The man who is particular in fitting his customers with spectacle frames is frequently much less so when eyeglasses are required, often allowing customers to suit themselves. To a certain extent this is brought about by the fact that the customer is naturally the best judge of the pressure which the plaquets exert upon the nose, whether they are comfortable or not, and in attending to this point it frequently happens that one is apt to overlook other details. It should always be remembered that the careful centring, adjustment of the interpupillary distance and the like, are much more important in this case than with spectacles, owing to the lesser stability of the eyeglasses when in position.

### Astigmatic Clips.

Strictly speaking, in cases of astigmatism to obtain the best results from the necessary correction, one ought never to allow the use of clips, because of the lesser stability, is liable to alter the position of the axes and so obviate the effect of the cylinders. In this way the clips may possibly have a bad effect on the visual acuity instead of the good. This rule cannot, however, always be observed in practice, as the customer, more often than not, thinks more of the cosmetic effect of the glasses, which he can see at once, than of the benefit derived from the accurate position of the lenses, which he can only judge of by future experience. The consequence is that, when an optician looks around him in the streets or trams, he observes that a large proportion of those wearing clips or folders do so with anything but a proper regard for the correct position, one eye being probably placed high up above the media line and the other correspondingly low down, or perhaps the clips are tilted at an angle to the plane of the surface of the eye instead of being parallel to it.

### Rimless Clips

are the most difficult to fit of any, and in this case I think it is easiest to follow the same method that I have advised for the fitting of frames, and to keep a fitting set, which can now be obtained very reasonably from any of the wholesale dealers. This method is generally far more convenient and accurate in practice than when measurements are made which require a highly-skilled optician to record and interpret, or the results are not satisfactory.

### Plaquet Linings.

Whilst on the subject of clips, I should like to say a word on the material used for plaquets. As a wearer of eye-glasses, I have always shown a preference for cork, which can be easily cleaned with a moist piece of rag, and can be cheaply renewed when necessary. In addition, I have always found cork much softer to the skin than celluloid, which has a nasty habit of taking the skin off one's nose, however gently and carefully it is adjusted. I had a scientific customer once who gave me a free explanation of this, saying that the plaquets collected the free acid from the skin when the face was hot and perspiring, and this then acted like a caustic and produced a sore. Possibly some of my readers may have a better theory, or be able to explain this one for me.

## Westminster Wisdom.

A Record of Parliamentary Progress.

### THE SHOP HOURS BILL.

Owing to the recent illness of the Home Secretary some little delay has arisen in regard to the introduction of the Shop Hours Bill which, as announced already in the *C. & D.*, it was his intention to have brought forward before the adjournment for the Whitsuntide holidays. The postponement, however, of the introduction of the Bill has enabled the right hon. gentleman to continue the informal interviews which have been in progress for several weeks past with the representatives of the various trades and businesses likely to be affected by his proposals. The latest of these to be arranged is with the representatives of chemists' assistants, and this interview will take place at the Home Office on Tuesday next.

### THE FINANCE BILL.

The fight in Committee over the Finance Bill is likely to be of a prolonged and vigorous character, and there is every indication (writes our Lobby correspondent) that the Opposition are prepared to fight the measure line by line until such time as the Government think fit to apply the closure. The various Unionist Committees which have been appointed to consider different aspects of the Bill in its passage through Parliament have received an immense amount of correspondence on the subject of the injustices of the new proposals, and these will have an important bearing upon the many amendments of which notice will be given as soon as the second reading is carried. One of these will, it is inevitable, relate to the question of giving relief to the drug-trade, in regard to which many representations have been made to the Chancellor of the Exchequer since he first launched his proposals. Another point to be brought forward will concern industrial alcohol, upon which Mr. Mitchell-Thomson, who has just returned to Westminster after a severe attack of typhoid fever, will probably have a good deal to say. Manufacturers who employ alcohol, and producers of motor spirit, have not given up the hope of getting the Chancellor to consider their arguments for special consideration, and it is understood that another meeting is to be called in the City to formulate a plan of campaign. Altogether the prospects of a prolonged wrangle in the Committee stage are becoming every day more and more apparent, and it will be no surprise if the Bill does not issue from the House of Commons, on its fateful journey to the Upper Chamber, before the middle or end of July, or perhaps even later. Altogether, according to present computations, there appears to be but little probability of the Session being brought to a close before the end of the first week in September.

### RESTRAINT OF TRADES BILL.

This Bill, which is backed by Mr. Seddon, may safely be added to those which were mentioned in last week's *C. & D.* as being quite unlikely to become law during the present Session of Parliament. The Bill relates to the question of radius agreements, and renders it illegal for masters to bind any servant not to take another situation or engage in the same trade or occupation for any period within one year from the date of engagement. During the present week, at the instance of the commercial travellers of the United Kingdom, Mr. Seddon has expressed his willingness to include members of that body within the scope of the Bill, which will probably make its reappearance next Session in an amended form.

**RUSSIAN PLATINUM.**—The Government Commission appointed to regulate the Russian platinum industry has (according to a Reuter's telegram from St. Petersburg), in conjunction with representatives of that industry, drawn up a scheme for the formation of a compulsory syndicate. In connection with this scheme the exportation of unrefined platinum is to be prohibited, its production is to be regulated by law, and credit is to be allowed on platinum by the State Treasury until the export trade in that article to foreign countries shall have become more favourable.



## Observations and Reflections.

By "Xravser."

### The Finance Bill

is offered by the Treasury as a basis for discussion. No one would be more surprised than Mr. Lloyd George himself if it were to pass substantially as it stands. Now, therefore, begins the real tussle. Proposed victims of all classes are organising their defences, and one or other of the several combinations of chemists which are all yearning to distinguish themselves has now its opportunity. Particularly in regard to medicated-wine licences. There is a difficulty to start with owing to the fact that only a minority of every such association is interested, and that some of the others will rejoice to see this particular side-line dismissed from pharmacy, bag and baggage. It may be necessary, therefore, for the present licensed vendors to form a special defence association among themselves. The thing to aim at is a special retailer's licence for the sale of medicated wines, to be granted to chemists only. The tariff as it is set forth in the Finance Bill will bring the revenue a good deal less of chemists' money than the present scale yields. Very few pharmacists who sell these products will pay 7l. or 10l. a year for the privilege of doing so. The few whom it will "pay to pay" that duty are doing a general trade in wines, and they will be in the same boat with the larger grocers, many of whom will not grudge the extra cost, because it will rid them of a lot of competition.

### Mr. Will Crooks, M.P.,

stated a few weeks ago that the Chancellor of the Exchequer had assured him that chemists would not find the new charge work out in the way they were anticipating. "Fair and honest consideration would be given to the value of the department used for the sale of wines." That fair and honest consideration must be insisted upon. Probably the plan revolving in the right honourable mind is that a section of the premises shall be partitioned off for the sale of exciseable liquors, and that the licence shall be reckoned on the assessment of that portion only. This method will be feasible for the Army and Navy Stores, but not for the small pharmacist. In any case the new arrangement will work out as a dole to the great department businesses, for the utmost they will be required to pay, however vast their turnover, will be 10l. a year against the 7l. which will fall on almost every retailer who takes out a wine-licence.

### The Spirit-tax on Medicines

had better be left for the hospitals to deal with. The hardship which the additional duty imposes on them is obvious to all politicians, and some way of relief will have to be found sooner or later. It will probably come in the form of a "Pharmacie Centrale" for the hospitals, somewhat similar to the institution they have in Paris, at least for the manufacture of spirituous medicines. When concessions are made in regard to the medicines used in charitable institutions the claims of medicines sold by chemists will have to be considered. But for the present our agitators have pretty well given away any case for special consideration to ourselves which at first we imagined we had. The difficulty of passing on the tax to the consumer seems to have been exaggerated, and in the Irish capital it may be supposed that an impost on something sold by pharmacists should be welcomed annually, so well able have the chemists there shown themselves to look after their interests. As intimated last week,

### Duty-free Alcohol

is bound to be a prominent subject for discussion in the industrial world. In France a Parliamentary Commission has been taking evidence with a view to encouraging the use of native-produced alcohol instead of importing three or four million pounds' worth of petrol annually. In all probability alcohol is destined to become a principal source of heat, light, and power in the near future. It may well be that its consumption for these purposes will cause its present adoption as a beverage and intoxicant to appear insignificant. In Germany in the last ten years of the nineteenth century the increased employment of denatured alcohol for industrial purposes was more than a million hectolitres, and in France during the past ten years, although the price has been against it, an increase of half a million hectolitres for similar purposes has been recorded. In both of these countries alcohol is regarded as a national asset. Petrol may fail or get scarce; alcohol can always be produced so long as harvests follow seed-times, and it is one of those substances which are likely to become cheaper as the demand for them develops. It is only the revenue necessities and precautions which hinder its full employment, and it remains for the ingenuity of our scientific men and legislators to discover means for overcoming these obstacles to its free adoption in many industries.

### The Interpretations of the Dentists Act,

which have been gradually developing during the past twenty years under the fostering care of the British Dental Association were ruthlessly shattered by the judgment of the Court of Appeal in the action of *Bellerby v. Heyworth. Barnes v. Brown* had brought the Association as near to the protection of practice as they need care for. But the sun of their Austerlitz suddenly stopped shining after the Court of Appeal had disposed of the *Bellerby* case, and *Barnes v. Brown* is of no further use. The Court of Appeal did what Courts of Appeal have often done before—they followed exactly the line taken all through by this journal. In a comment on *Barnes v. Brown*, published on October 31 in this page, occurred the remark: "It is almost unthinkable that the draftsman of the Act meant what the Lord Chief Justice has been able to read into it"; and now the Master of the Rolls, two other Lords Justices concurring, say they cannot follow the Lord Chief Justice's reasoning, and see no assertion of an illegal claim in such words as *Mr. Barnes* had to pay for. It remains to be seen what compensation is to be made to *Mr. Barnes* and others who have been, as it now appears, unjustly fined, and especially to the Hackney practitioner whom *Mr. D'Eyncourt* has recently mulcted of 38l. 8s. in reliance on *Barnes v. Brown*. The protection of the title "dentist" and of titles which colourably imitate it is distinctly desirable from the public point of view. But that is all that Parliament intended to grant, and the British Dental Association will be wise to content themselves with that, for they are not likely to get anything more.

### Mr. Rockefeller's Reminiscences

are pleasant reading, and show the richest man on earth in a distinctly amiable light. But the ambitious young man who buys the book in the hope of discovering the way to an income of a hundred dollars a minute or thereabouts will be disappointed. "The underlying essential element of success in business affairs," says the billionaire, "is to follow the established laws of high-class dealing." That is what millions of us have done, and some of us have hardly got a living. Mr. Rockefeller winds up a little series of similar platitudes with the advice: "Be sure that before you go into an enterprise you see your way clear to stay through to a successful end," which is exactly what he did not do when he started in the oil business, for he could not tell how long the oil would continue to flow. Elsewhere Mr. Rockefeller comments on the attempt to maintain wages at a high level, and says: "A labourer is worthy of his hire; no less, but no more." I wonder whether they ever sing "Not more than others: I deserve" at his chapel.



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## Editorial Comments.

### The Finance Bill.

ACTS OF PARLIAMENT which give effect to financial resolutions by the House of Commons are generally concise measures, of a dozen sections or so, but the Bill of 1909 is bulky enough to last the septennium of a Parliament, and some say that it will determine the life of the present one. With that we are not concerned, as it is only the proposals contained in the Bill which affect our clients as traders,



rather than as taxpayers, that may fittingly be discussed in these pages. The following synopsis is, however, printed here as a matter of record. The Bill consists of nine parts and six schedules, the whole extending to sixty-two pages, and including seventy-four clauses :

- I. Duties on land values; 28 clauses.
  - II. Duties on liquor-licences; 11 clauses.
  - III. Death-duties; 6 clauses.
  - IV. Income-tax; 6 clauses.
  - V. Stamps; 8 clauses.
  - VI. Customs and excise other than licence-duties; 7 clauses.
  - VII. Provisions as to payments to local authorities and to road-improvement account; 4 clauses.
  - VIII. National Debt; 1 clause.
  - IX. General; 3 clauses.
- Schedules setting forth (1) the excise liquor-licences, (2) rates of estate duty, (3) spirit-duties (customs), (4) tobacco-duties and drawback, (5) rebate of motor-spirit duty and rates of duties on motor-cars; (6) enactments repealed (4 pages).

We here skip over the first part and come to

### The Liquor-licence Duties.

which are as set forth in the *C. & D.*, May 8, p. 703, but in the case of retailers' on-licences the duty is to be for spirits half the annual value of the premises, and for beer a third of the annual value, with fixed minima in each case as set forth on May 8. Changes are made by Section 35 in the dates on which licences expire; manufacturers and wholesale dealers' licences will expire on June 30 (October 10 and July 5), and other licences (retailers of spirits, wines, etc.) on September 30 in England and Ireland and May 28 in Scotland (at present March 31 and October 10 in England and Wales; the date for Scotland is not altered). Clause 39 provides for the expiration on September 30 next after the passing of the Act of *all* excise licences for the manufacture or sale of intoxicating liquors, a return of unexpired value of the duty being made to the licensee. Similar provision is made for licences which are to expire on May 28 and June 30, and we assume that the commissioners will somehow reconcile the word which we have italicised with the May-June provision. As in existing statutes, compounders of spirits, who include all wholesale druggists who export tinctures under drawback and all manufacturers of spirituous preparations other than medicines, are classed with distillers in the manufacturers' group. Their licence will cost 15*l.* 15*s.* a year, instead of 10*l.* 10*s.* Clause 36 imposes a penalty of 500*l.* upon any person who manufactures any intoxicating liquor without a licence, and this will cover chemists or others who manufacture liquors for which a compounder's licence is necessary. The same clause imposes a penalty of 100*l.* for wholesaling without a licence, 50*l.* for retailing, and 50*l.* for contravening the terms of a licence. The wholesaling and retailing of certain liquors in the same premises are struck at by Clause 37, which says :

The additional retail licences for the sale of spirits or liqueurs or beer granted to a dealer in spirits or beer, and the licence for the sale of table beer, and the combined licence for the sale by retail of wine and beer, shall cease to be granted, without prejudice to the continuance of any such licence which is in force at the time of the passing of this Act until the date when the licensee expires in accordance with the provisions of this Act.

This will affect the drug trade, wholesale and retail, to some extent. Clause 38 is devoted to definitions of "beer" (as at present), "wine" (means foreign wine), "sweets" (as at present, *C. & D. Diary*, p. 231), and other words used in Part II., "premises" in relation to licensed premises including any offices, courts, yards, and gardens occupied together with the house in which the liquor is sold. The promised provision in regard to the reduction of the basis of estimating the duty on chemists' premises licensed for the sale of wine is contained in Clause 30, viz. :

In estimating for that purpose the value as licensed premises of hotels or other premises used for purposes to which the holding of a licence is merely auxiliary, no increased

value arising from profits not derived from the sale of intoxicating liquor shall be taken into consideration.

The minimum duty is to be 3*l.* 10*s.* With these clauses in the body of the Bill the schedule provisions should be considered, as they are quite as important. Three clauses make provisions in regard to manufacturers' licences : (1) it authorises them (except in the case of beer) to sell by wholesale as well as make; (2) continues present provisions in regard to domestic brewing of beer and making cider from apples grown on one's own land; and (3) provides duties for new distilleries and breweries. As to wholesale dealers' licences, six clauses lay down that a wholesale licence does not authorise sale by retail in any case, and continue such existing privileges as a wholesaler's wine-licence covering the sale of sweets, and that when a person has both retail and wholesale licences the duty on the latter shall be reduced by 25 per cent. The provisions applicable to retailers' licences mostly refer to public-houses, and others continue the rule that retailers of wines "off" may not sell wine "in open vessels or in any quantity less than one reputed pint bottle." This differs from the present law that wines are to be sold "in reputed pint or quart bottles only," contained in Section 4 of the Refreshment Houses Act, 1860, which, with other parts, is repealed. We proceed now to Part VI. of the Bill, which covers

### Spirit-duties.

As well as tea, beer, tobacco, motor spirit, and saccharin. Clause 61 (1) imposes additional customs duties on spirits imported as follows :

	£	s.	d.
(1) For every gallon, computed at proof, of spirits of any description except perfumed spirits, including naphtha or methylic alcohol purified so as to be potable, and mixtures, and preparations containing spirits	0	3	9
(2) For every gallon of perfumed spirits	0	6	0
(3) For every gallon of liqueurs, cordials, mixtures, and other preparations entered in such a manner as to indicate that the strength is not to be tested	0	5	1

The present duty on (1) is 11*s.* 4*d.* to 11*s.* 6*d.*, according to origin; on (2) 18*s.* 1*d.* in cask and 19*s.* 1*d.* in bottle; and on (3) 16*s.* 4*d.* The wording of the charge differs from that used during the Budget stage. The duties on the following "special articles" are to be as stated in the first column, and we have added the present duties :

	New duties.	Present duties.
	£ s. d.	£ s. d.
Chloral hydrate ... the lb.	0 1 9	0 1 4
Chloroform ... the lb.	0 4 4	0 3 3
Collodion ... the gal.	1 14 11	1 6 3
Ether, acetic ... the lb.	0 2 7	0 1 11
Ether, butyric ... the gal.	1 1 10	0 16 5
Ether, sulphuric ... the gal.	1 16 6	1 7 5
Ethyl, iodide of ... the gal.	0 19 0	0 14 3
Ethyl bromide ... the lb.	0 1 5	0 1 1
Ethyl chloride ... the gal.	1 1 10	0 16 5

The excise duty on spirits is correspondingly raised 3*s.* 9*d.* per proof gal. An addition customs duty of 1*s.* or 1*s.* 2*d.* (according to gravity) per 36 gallons is to be imposed on beer of the descriptions called or similar to mum, spruce, or black beer, or Berlin white beer, or other preparations, whether fermented or not fermented. On other beer imported the increased duty is 3*d.* per 36 gallons (s.g. 1.055), and in proportion to other gravity. Clause 64 imposes the duty of 3*d.* per gallon on motor spirit, whether imported or made in the country. It is divided into nine clauses, and gives the excise full powers as to imposing the duty "during the process of the manufacture of motor spirit," which is thus defined :

Sub-clause 8. In this Part of this Act, the expression "motor spirit" means any inflammable hydrocarbon (including any mixture of hydrocarbons and any liquid containing hydrocarbon) which is capable of being used for providing reasonably efficient motive power for a motor-



car, and the expression "manufacturer of motor-spirit" includes a refiner of motor-spirit and a person otherwise preparing motor spirit.

Sub-clause 9. The Commissioners may by regulations prescribe tests for the purpose of determining whether any inflammable hydrocarbon or mixture of hydrocarbons, or liquid containing hydrocarbon, is motor-spirit within the meaning of this provision.

It will be observed that the definition covers coal-tar products such as benzol, as well as mineralised methylated spirits (which contain three-tenths of 1 per cent. of petroleum), but the terms of Sub-clause 9 will enable the commissioners to exclude such spirits. This should be watched carefully, as certain things depend upon it. Thus a maker of "motor spirit" has to be licenced at 1*l.* a year and a dealer at 5*s.* If mineralised methylated spirits is "motor spirit," these new duties will complicate matters; if not, its utility for motive purposes will come nearer the range of probability, and in consequence greater production of alcohol might be encouraged. But reflection on the whole subject, not forgetting that the object of the new tax is to make our highways better, shows that the provisions will seriously complicate the methylated spirits industry if the commissioners do not safeguard it in some way. Provision is made for a rebate of half the duty on the spirit used according to the schedule terms as follows:

Motor-spirit used for the purpose of supplying motive power—

1. To a motor-car which is constructed or adapted for use, and is used solely, for the conveyance of any goods or burden in the course of trade or husbandry, and whereon the Christian name and surname and place of abode or place of business of the person, or the name or style and principal or only place of business of the company or firm keeping the same, shall be legibly and visibly printed in letters of not less than one inch in length.

2. To a motor-cab, motor-omnibus, or other vehicle being a hackney carriage within the meaning of Section 4 of the Customs and Inland Revenue Act, 1888, while it is standing or plying for hire.

Repayment of the duty is by Clause 65 (3) provided for those who employ motor spirit for other purposes, the terms being as follows:

If any person proves to the satisfaction of the commissioners that he has within the previous six months used any quantity exceeding five gallons of spirit which is motor spirit within the meaning of this Act for purposes other than supplying motive power for motor-cars, he shall be entitled to obtain from the commissioners a repayment of any duty which has been paid in respect of the spirit, and if any person proves to the satisfaction of the commissioners that he has within the previous six months used any quantity exceeding five gallons of motor-spirit for the purposes mentioned in Part I. of the Fifth Schedule to this Act, and that the full duty has been paid upon the spirit so used, he shall be entitled to obtain from the commissioners a repayment of half the amount of duty so paid.

As to the duties on motor-cars, if a duly qualified medical practitioner proves that he keeps his car for the purpose of his profession, he will be entitled to an allowance of one-half the duty payable. These are the principal points in a measure which, at first sight, seems most complicated, but gradually becomes simpler as it is studied—especially along with the schedule of repealed enactments.

## Mexican Vegetable Wax.

THERE has recently been organised in Monterrey, Mexico, a company known as the Cia. Candelilla Mexicana, which is working a patented process for the manufacture of vegetable wax from the candelilla plant, *Pedilanthus Pavonis* (*Euphorbiaceæ*), a species of bullrush, which is found largely in the Mexican Republic. In his annual report on the trade of Tampico for 1908 the British Consul gives a lengthy and interesting description of the uses to which this wax can be applied, the information having been taken from the "Monterrey News," which enumerates its many claims in such glowing terms that

one hesitates to believe all that is said about it. It is claimed to be an excellent vegetable wax, of light colour, very hard, and of high melting-point. The following is quoted from our contemporary:

"Purified it will make the very best quality of candles, which give a brilliant light and are very lasting. Dissolved in turpentine it makes an excellent varnish and is used for the manufacture of shoe-polish. It will give more lustre than the high-priced carnauba wax from Brazil, which is at present exclusively used for this latter purpose. Purified and moulded into phonograph records the candelilla wax will take the sound perfectly, and on account of its cheap production it will most assuredly take in time the place of the wax which is used at present in the manufacture of this article. Tests which have been made for adaptability for insulation of electric wires have been very successful, and it may be that the candelilla wax may entirely displace the use of high-priced rubber in this direction. Another use, of course, is the substitution of this wax for beeswax in the pharmaceutical laboratories. It can be put on the market much cheaper than beeswax, and as it is of greater hardness and higher melting power in the manufacture of plasters and ointments, where beeswax is used as the principal ingredient, less of the candelilla wax will answer the same purpose. The candelilla wax can be bleached perfectly white. One peculiarity of this new product is that it has a strong beeswax odour, and for miles around a candelilla wax extraction plant it is noticeable. This should make its use for wax candles preferable, aside from the greater lasting power and brilliancy, as the agreeable odour of beeswax is what is particularly sought for by the Roman Catholic Church, when candles—and tons of them daily—are burned at the shrine."

If all above is true, then the industry, if put on a proper commercial footing, should prove a very profitable enterprise, as from half to two tons of the plant may be cut from an acre of land per annum. The success of Mexican guayule rubber (formerly regarded as a useless weed), it is thought, is likely to find its counterpart in the candelilla wax industry, and it is even anticipated that it will eclipse guayule, in which it is estimated \$50,000,000 is now invested in Mexico. There are several wax factories now working in the Republic under the patented process, the company making favourable contracts with candelilla landowners, from whom they buy the wax, refine it, and place it on the market. The industry is being regarded as yet in its infancy, but the indications are, according to the "Monterrey News," that it will eventually be one of the most profitable of all Mexico's enterprises. *Nous verrons*. Apart from the virtues of the wax, the newspaper account is no doubt an inspired one, as the Consul himself has not been able to obtain any definite information as to the probable commercial success of the undertaking.

## Liver-fats and Cod-liver Oil.

A LECTURE on "The Functions of the Liver in Relation to the Metabolism of Fats," delivered by Dr. J. B. Leathes, F.R.C.S., before the Harvey Society of New York, and reported in "The Lancet" recently, deals with the problems attached to the great variations that are met with in the fat-content of the liver of various mammals. Incidentally several new ideas on liver metabolism are introduced, but some important results obtained by P. M. Heyerdahl, as also his cogent suggestions on cod-liver-oil assimilation, are unfortunately overlooked. Dr. Leathes states that the fact that the fat absorbed from the blood is diverted from the portal stream and conveyed by its own channels might be taken as an indication that the fats are dealt with by other organs and tissues than the liver. The normal liver contains about 2 to 4 per cent. of fat, but not infrequently double this amount is met with, and it may attain over 20 per cent., an amount equivalent to between 60 and 70 per cent. of the dry tissue. There are grounds for looking upon the liver as the seat of the synthesis of fatty acids,



since some pieces of liver removed and pulped under aseptic conditions have shown a marked increase in fatty acids on incubation. However, still better grounds exist for regarding the large amounts of fat found in the liver as imported from storage-places in the connective tissue. Rosenfeld found on giving phloridzine to starved dogs that fat begins to accumulate in the liver after the fortieth hour of administration, and when the animal is killed eight hours later fat has collected with such extraordinary rapidity that it forms the enormous proportion of 70 per cent. of the dry weight of the organ. A striking series of analyses shows that as the proportion of fat in the liver increases, its high iodine-value decreases, until it approaches that of adipose-tissue fat, which is practically half the former value. The inference is that the liver is able to "desaturate" the fats it gets unless they are supplied in excess. Experiments conducted by the author on cats and rats which were fed with various fats, including cod-liver oil, show that the character of the liver-fat is determined in the first instance by the character of the fat offered to this organ by the blood. Another point confirmed was that the liver has the power of "desaturating" fatty acids, which is not exhibited by the heart, spleen, or kidneys. Even when the fatty acids supplied are as unsaturated as those of cod-liver oil (iodine-value 150) the liver exerts this power—the fatty acids attaining iodine-values of 185 and 215 in a cat and a rat. Two speculations are provided to account for this "desaturation" phenomenon—one idea involving the formation of new double bonds, the other of a transposition of existing bonds, which may then be more favourably attacked by iodine. Accordingly, it would appear that the work of the liver consists in an operation which may be compared with the drying of gunpowder—namely, in preparing fat for the metabolic processes in which the fat is concerned in organs (such as the heart and muscles) where the discharge of energy is conspicuous. Although Bull's investigation of the fatty acids of cod-liver oil is mentioned, and Hartley's work (as yet unpublished) on the fatty acids of pig's liver is drawn upon to illustrate various points as regards double linkages, Heyerdahl's work on cod-liver oil, published in 1895, is not utilised. Heyerdahl, in referring to the new therapeutic acid he obtained from cod-liver oil, says:

On account of its peculiar properties and structure, coupled with the large percentage in which it is present, it probably plays an important—perhaps the most important—part in the therapeutical action of cod-liver oil. . . . Its saturated bromine combination would then be octo-bromo-therapeutic acid, or octo-bromo-margaric acid, if we look upon it as a saturated acid.

An acid obtained by Hartley containing 20 carbon atoms and four double links is called a curiosity. It will be seen that Heyerdahl's acid has the four double links, and that his prognostications as to its utility in the animal economy are beginning to obtain confirmation. The reasons for the well-known fattening-power of cod-liver oil would also appear to be dependent on the potential properties of its unsaturated fatty acids.

**PERFUMERY TAXES IN GERMANY.**—The "Daily Chronicle" Berlin correspondent reports that the Finance Committee of the Reichstag propose to add to the Bill which increases the tax on spirit a paragraph dealing with perfumery. A tax is also proposed on all perfumed toilet-requisites, and it is proposed to attach a "banderole" to each bottle or package. This banderole will bear on it the selling price, together with the tax. Imported articles of this character are already highly taxed, but both imported and home-made articles will be subjected to the new duties. An article which sells for 50 pfennig will pay 10 pfennig; an article sold at 3m. will pay 1m. duty; one sold at 8m. a duty of 2m. 50 pfennig; an article sold at 10m. 3m. 50 pfennig, and those over 20m. 8m.

## Insecticides, Sheep-dips, and Weed-killers.

By A Country Pharmacist.

THE trade in these preparations is a lucrative one, but for reasons which need not be gone into here has been largely diverted from registered chemists during recent years. As one of those who have never allowed this kind of business to pass to neighbours who could not legally sell many of them, I may be able to give some points to those who are less familiar with the trade. The new statutory conditions throw the burden of the supply of arsenical and nicotine preparations upon registered chemists, and it behoves every qualified vendor to stock the articles required. The demand exists, but has been diverted into wrong channels, and it is possible that the difficulties connected with the trade may be magnified. The main object of this article is to give hints from experience. What are the substances referred to? According to the Act they are:

Substances to be used exclusively in agriculture or horticulture for the destruction of insects, fungi, or bacteria, or as sheep-dips or weed-killers, which are poisonous by reason of their containing arsenic, tobacco, or the alkaloids of tobacco, etc.

Besides these there are non-poisonous weed-killers and sheep-dips which anyone can sell. There are makers and makers of all these preparations, and it would be folly to attempt to stock all. It is with this, as with everything else; certain makes sell in certain districts, and the purchaser may ask for a particular make. In many cases, however, the purchaser can be guided by the seller, and no undue anxiety need be felt on that score. As illustrating this point, and also how the new position may be worked with advantage, I had a call a few weeks ago from a neighbouring ironmonger, who wanted some weed-killer. He knew something of the law, and said he was prepared to sign for it. I pointed out that while that might finish the transaction between him and the seller, it would be illegal for him to hand the weed-killer over to his customer. He next suggested booking through him, and the purchaser might sign, but after a friendly explanation he accepted the position reasonably, and handed over the customer.

### Poisonous Weed-killers.

The following are some of the better-known killers, although not claiming to be a complete list of makes:

Name	Strength	Retail price, all cheaper in quantity
Aeeme ... ..	1 gal. to 25 gals. water	1 gal. 2/3, 2 gals. 4/3
" double strength	1 gal. to 50 "	½ gal. 2/-, 1 gal. 3/6
" Powder ... ..	No. I. to make 25 "gals.	Per tin 1/9, No. II. 3/3
Barrat's ... ..	1-50	½ gal. 1/9, 1 gal. 3/6
Cooper's Weedicide ...	Concentrated	Quart tin 2/-, 1 gal. 6/6
Hayward's Eureka ...	1-50	½ gal. 2/-, 1 gal. 3/6
" Powder	Tin for 12 gals.	1/-; for 25 gals. 1/9
Little's Weedol Powder	For 25 gals.	1/3 per tin
" Weed-destroyer	" "	1/6; 1 gal. drum 2/6
" Liquid	" "	½ gal. 2/-, 1 gal. 3/6
Pharos Weed-destroyer	" "	½ gal. 2/-, 1 gal. 3/6
Robertson's Herculean	" "	1 gal. 2/-, 2 gals. 3/3
Smith's (Louth) Perfect	" "	4 tins 1/4 per tin
" Powder	" "	8 tins 1/3 per tin

### Poisonous Sheep-dips.

Makers of weed-killers are generally sheep-dip makers also. Purchasers are very different, however. Weed-killers can be sold wherever there are walks and weeds, and this presents a wide outlook, from the humble cottage or villa to the mansion house with its spacious grounds. Dips are limited to the farming class, and farmers generally have a decided bias for some particular make. Even districts are marked distinctly in this direction, so that stock can be limited to one, two, or three makers at the outside, once



the demand is known. The following have all their advocates :

Name	To dip	Retail price, all cheaper in quantity
Acme Sheep dipping Powder ... ..	25	In packets 1/6 each
Biggs' Sheep-dipping Paste ... ..	25, 50, 100	4 lb. 1/8, 8 lb. 3/4, 16 lb. 6/6
Biggs' Glenosis Powder	20 and 100	1/- and 4/6 each
Cooper's Sheep-dipping Powder ... ..	20	1/- per packet
Hayward's Combined Glycerin dip ... ..	50 to 60, 100 to 120	3/6 and 4/6
Little's Liquid dip ... ..	25, 50, 100	1/9, 2/6, 4/6
" special Fly Paste dip ... ..	25-30, 50-60, 100-120	1/-, 2/-, 4/-
" Powder ... ..	—	1/- packets
McDougall's non-poisonous ... ..	20, 50, 100	5 lb. 2/6, 10 lb. 5/-, 20 lb. 10/-
Rawdin's Yellow Paste	50, 100, 150	3/6, 7/-, 10/-
Robertson's Highland	25, 50, 100	4 lb. 2/-, 8 lb. 3/6, 16 lb. 6/6
Rome's ... ..	25, 50	1/-, 1/6

*Insect, Fungi, or Bacteria Destroyers.*—Acme arsenate of lead paste, Fumerite, etc., arsenic, corrosive sublimate, Cuff's Fly oil, Hayward's Eureka, insecticide sheets, orpiment, Paris green, verdigris, XL-All vaporising compound, etc.

The most practical yet difficult part of the work remains to be done. Many will be anxious to get in line with the probable demands through the restrictions now put on unqualified vendors. What stock might be considered a reasonable and safe one under the circumstances? Much depends upon the situation, town or country. In the former weed-killers and horticultural requirements should be fostered, while in country towns a little more would be expected in dips. The seasons also require to be studied, and the dippings in spring and autumn specially kept in view. In the Highlands and Lowlands of Scotland, as well as in certain pastoral districts in England where sheep are reared in thousands, orders for these are sent direct to makers, and are regarded as wholesale transactions, so that it is the supplies for dipping hundreds and smaller lots that may have to be sold by the retailer. In a town of about 25,000 of a population with country area an invoice like the following might be taken as a guide :

	£	s.	d.
3 doz. tins Weed-killer Powder (to make 25 gals. each) at 1/9	...	...	10 6
" 3 gal. tins Liquid to make 25 gals. each at 2/-	...	...	12 0
" 1 " " " 50 " " 3/6	1	1	0
" 2 " " " 100 " " 6/-	...	...	18 0
" 5 lb. tins Sheep dip for 5 Sheep at 2/6	...	...	15 0
" 10 " " " 50 " " 5/-	...	...	15 0
" 20 " " " 100 " " 10/-	1	10	0
" XL-All Vaporising Compound for 2,000 cubic feet at 1/2	...	...	3 6
" XL-All Vaporising Compound for 5,000 cubic feet at 2/10	...	...	8 6
" Cuff's Fly Oil at 1/8	...	...	5 0
" Insecticide Sheets at 9d.	...	...	4 6
			7 3 0
	Less 25%		1 15 9
			5 7 3
	Less 5% 1 month		5 3
			£5 2 0

As many of the bacteria and fungi destroyers are already in every chemist's shop, an investment of 5*l.*, more or less, in proportion to population and district, by each qualified pharmacist would put all in a position to meet the reasonable requirements of the public. By circularising, billing, and advertising, and judicious display of goods, a sound and profitable extra can be established.

**SMOKING IN ANCIENT TIMES.**—A French journal of pharmacy states that smoking was introduced into Europe long before the discovery of America. The writer states that the indulgences of the Romans included this, the most charming vice of all, and that an ancient painting has been founded representing legionaries resting after a battle, with the fleecing spirals curling above their heads from "lighted reeds." They had, of course, no tobacco, but dried lettuce-leaves, the pipe being a sort of a reed.

## General Medical Council.

IN the endeavour to get through their business last week the Council took the unusual step of meeting at noon on Friday, May 28, to put in an hour before lunch. The hour was well spent. Four reports were received and entered, including that of

### THE PHARMACOPOEIA COMMITTEE,

which was as follows :

From November 23, 1903, to May 22, 1909, the number of copies of the British Pharmacopoeia (1898) sold by the publishers was 482. The total number of copies sold in the year beginning May 25, 1908, was 1,019. Up to the present time 40,788 copies of the Pharmacopoeia and 4,449 copies of the Indian and Colonial Addendum have been sold. The stock of the Pharmacopoeia now on hand consists of 2,242 copies, together with 1,885 copies of the Addendum. Valuable reports, containing suggestions for the better adaptation of the Pharmacopoeia to local requirements in distant parts of his Majesty's Dominions, continue to reach the committee from Government authorities outside the United Kingdom. These are in process of being analysed and incorporated in the tabular analysis prepared by the Secretary, Dr. Tirard. The committee hope to hold a special meeting during the autumn, for the purpose of coming to a decision on certain points relating to the new Pharmacopoeia, and in particular on the question of the omission or inclusion of the several articles dealt with in the returns supplied by the licensing bodies and other medical authorities at home and abroad.

A debate ensued over the public health report. Professor Thomson urged that it is a hardship to the student that he should be compelled to spend twelve months over a nine months' course, and moved that the report be referred back to the committee, but this was defeated.

### PURGING THE DENTAL REGISTER.

The Council was occupied during the afternoon in dealing with complaints by the British Dental Association (represented by Mr. Turner) against dentists. The case of W. J. Watson, charged with covering an unqualified assistant named Potter, was postponed from last session. Seeing that Mr. Watson had still some connection with Potter, who was in the employ of an unqualified company called Booth, the Council again postponed the case, in spite of the protestations of Mr. Watson that he is a public man in Birmingham and has been in practice forty-one years and has in connection with this charge already travelled 650 miles. Another case brought on from last session and again postponed till next November, when the accused will have to satisfy the Council as to his conduct in the interval, was that of Mr. Charles Morgan. Notwithstanding the undertaking he had given to discontinue advertising, his advertisement still appeared on the curtain of the Empire Theatre, Newport. Mr. Morgan attended, accompanied by counsel, who stated that the advertisement had now been withdrawn. The offences of Samuel David Davis and Frederick Joseph Whitehead, dentists, residing at Wisbech, were practically the same. Both are in the employ of a company known as F. W. Bradley, Ltd., which has twenty-three branches, but with one exception the accused are the only registered persons engaged in carrying on the business. The Council ordered both names to be erased from the Dental Register; as was also the order in the cases of Reuben Davis, Boston, U.S.A., and Stanley Bennett Wakefield; the former had been convicted on three separate occasions of theft, and the latter of illegal pawning and of fraud. The name of Thomas Parkins, Salford, Manchester, was also erased for covering his son, Charles Henry Parkins, at Sheffield, who is not registered.

### DOCTOR AND UNQUALIFIED DENTIST.

The case of two Ilford doctors, Thomas T. McKendry, M.B., and Mr. Albert Victor Chatelain, occupied the Council two or three hours. Mr. Chatelain complained that Dr. McKendry had on various occasions administered anaesthetics for E. C. Dalby, an unqualified dentist. Mr. Chatelain declared that the accused had been warned that Dalby was unregistered. A week after his arrival at Ilford he himself had denounced Dalby as a quack, just as, he added, he should denounce Boots, the chemists. Mr. Dalby, who attended as witness, proved that his patients included half a dozen of the leading practitioners of Ilford.



and their families. Dr. McKendry admitted the offence, expressing regret, and he will have to appear at the November session to satisfy the Council that he has amended his ways.

In spite of the gallant efforts of the Council to complete the business before the holiday (they met at 11 on Saturday morning and sat till 5), the penal cases have been too much for them, and, upsetting all arrangements and falsifying all predictions, they have been detained over Whitsuntide and had to resume on Tuesday, a thing that has probably never occurred before. On previous occasions when the session threatened to clash with Whitsuntide the date has been altered. Consideration of the charge against Robert Galbraith Reid, M.B., 202 Ewell Road, Surbiton, formerly of 176 Lambeth Road, that he had abused his position as a medical man by having sexual intercourse with the wife of a patient, occupied the Council the whole of Saturday. A lengthy sitting was held on Tuesday, and in the result the Council found that the charge was not proved. The report of the Dental Committee was referred to the Royal College of Surgeons for observations. The recommendation of the Executive Committee with regard to the communication from the Privy Council on administration of anaesthetics, "that it should in future be restricted to persons with a medical qualification," had disappeared from the programme. After some formal business, much abbreviated, the Council rose.

## Medical Gleanings.

### Tinea Cruris.

DR. J. ODERY SYMES, Bristol ("B.M.J.," May 8, 1909), gives particulars of an outbreak of ringworm of the groin, fork, and axilla, which appeared in epidemic form in a public school. A method of treatment which was found to be successful in three weeks was as follows: The affected parts were painted every other day with a camel-hair brush soaked in oil, terebinth. rect., and the following ointment rubbed in every night:

Sulph. præcip.	...	...	...	5ss.
Hydrarg. amm.	...	...	...	5ss.
Acid. salicyl.	...	...	...	gr. x.
Lanolin.	...	...	...	5iv.
Vaselin.	...	...	...	5iv.

In both cases the applications sometimes gave rise to severe smarting, but this was of short duration, and was relieved by smearing with vaseline.

### Treatment of Ringworm.

DR. J. L. BUNCH in a lecture at the Polyclinic stated that x rays have a selective action for hair papillae, cancerous cells, and pathological tissues in general. Thus, a portion of scalp which has been exposed to a definite dose of x rays becomes entirely bald at the end of three or four weeks, and then new hair grows again over the bald area after another period of twelve weeks. In the case of ringworm of the scalp, the diseased hairs become loose and fall out, and are succeeded by a fresh crop of hair entirely free from disease. The patient is thus entirely cured of his ringworm by a single exposure of the diseased patches, and can return to school without danger of infecting other children. The only essential is that the amount of the x-ray dose shall be accurately measured—that is, the amount of x rays reaching the scalp. This is effectually done by means of greenish pastilles of platino-cyanide of barium interposed between the tube and the scalp, which change to a brownish tint when the exact dose has been given. Children are not frightened by this method of treatment, and for children over four years of age there is no question that better and quicker results are obtained in this way than in any other, always assuming that the scalp has not been previously irritated by treatment. It must, however, be remembered that the rays do not kill the fungus, and the diseased hairs may, as they fall out, infect other healthy portions of the scalp. Dr. Bunch always makes a practice of applying a weak sulphur-and-carbolic ointment over the whole scalp every morning in order to avoid any such possible infection.

For cases which have been irritated by treatment or for other reasons are unsuitable for the application of x rays, Dr. Bunch states that the best treatment is with croton-oil

ointment applied daily, with frequent bathing with hot water, or by applying one of the following ointments:

1.	Chrysarobin.	...	...	gr. xxv.
	Acid. salicylici	...	...	gr. x.
	Ichthyol.	...	...	gr. xx.
	Adipis benz.	...	...	3j.
2.	Olei rusci	...	...	3j.
	Saponis mollis	...	...	3iss.
	Spt. lavand.	...	...	3j.
3.	Naphthol.	...	...	gr. ij.
	Sulph. præcip.	...	...	gr. XLV.
	Bals. peruv.	...	...	gr. v.
	Lanolin.	...	...	3j.

A method which is claimed to cure ringworm in from two to three months is to clear the patches thoroughly by epilation and washing, and then to cleanse them with the following solution:

Boric acid	...	...	gr. v.
Chloroform	...	...	℥xx.
Rectified spirit	...	...	3j.

Then rub in

Acetic acid in crystals	...	...	gr. iv.
Solution of mercuric chloride	...	...	
(1 in 1,000)	...	...	3j.

Finally cover with

Acid. acetic.	...	...	gr. iv.
Unguenti cinerei	...	...	3j.

When, as a result of treatment, there remain but a few scattered stumps or black dots, these are destroyed either by electrolysis or needling with croton oil coloured with methylene blue. The dye enables one to see which stumps have been treated, and their removal two days afterwards with forceps is an easy matter.

Tinea circinata, or ringworm of the non-hairy skin, is easy to cure—quite a different matter from ringworm of the scalp. An ointment of

Hydrarg. ammon. vel sulphur.	...	...	5ss.
Acidi salicylici	...	...	gr. x.
Naphthol.	...	...	gr. ij.
Vaselin.	...	...	3j.

rubbed in twice a day will effect a speedy cure.

## Association Affairs.

### Brief Records.

**Keighley Chemists' Association.**—The annual meeting was held at the Devonshire Hotel, Keighley, on May 27. Mr. A. S. Dean (President) in the chair. There was a good attendance. The financial statement showed a credit balance of 4l. 8s. 7d. Mr. Dean, in reviewing the year's work, urged the members to take a more active interest in the Association. A committee had been appointed to object before the local Health Committee to an application for a poison-licence, but the Health Committee had not seen fit to refuse the application on the ground that it may do a considerable amount of harm to the applicant's trade. In the discussion the opinion was expressed that the local authorities are exceeding their responsibilities and ignoring Section 2. The revision of the prices of tinctures was also considered, and it was stated that several members had already increased their prices. It was understood that higher prices should be asked for by all members. The election of officers resulted as follows: President, Mr. Walter Ecroyd; Vice-President, Mr. J. Harrison; Hon. Secretary and Treasurer, Mr. T. A. C. Butterfield; committee, Messrs. A. S. Dean, Gill, Newton, and Turner.

**Cheltenham Chemists' Association.**—Mr. John Fletcher presided at the general meeting of this Association held on May 27 at 5 Promenade. There were also present Messrs. W. Barrow, J. A. Thomas, J. Ward, A. C. Saxby, F. T. Palmer, J. Chambers, H. B. Clarke, T. J. Dolman, A. Hill, C. H. James, J. P. James, C. J. Willis, A. E. Lane, and W. H. Hill (Hon. Secretary). A letter was read from Mr. J. A. Thomas thanking the Association for their sympathy shown by members attending the funeral of the late Mr. Phillip Thomas, and the Secretary was instructed to write letters of condolence to Mrs. Phillip Thomas and Mr. J. A. Thomas. Mr. Saxby read a paper on the Meteorology of Cheltenham. He showed some interesting charts of bright sunshine taken with a Campbell-Stokes recorder, also charts taken from self-recording thermograph, barograph, and rain-gauge during the past month. He gave extracts from the official returns showing the advantage enjoyed by Cheltenham as a residential and health resort, the amount of sunshine



being among the greatest recorded, while the humidity was almost the lowest. A vote of thanks was accorded to Mr. Saxby. It is proposed to hold a picnic in the early part of July.

**Wolverhampton Chemists' Association.**—A meeting was held at the Star and Garter Hotel, Wolverhampton, on May 26, Mr. Dunn in the chair. Messrs. Warner, Stanway, Phillips, Coleman, H. Phillips, N. Hunt, W. Smith, Fellows, Cannon, Rothwell, Forster, Goodwin, Cullwick, Bowdler, Trott, and Gibson were also present. Mr. C. G. Sage was proposed as an associate. The Chairman congratulated Mr. Gibson upon his election to the Pharmaceutical Council. Mr. Gibson, who was enthusiastically received, briefly replied. A sub-committee was appointed to deal with the arrangements for the annual excursion. A series of dispensing notes were submitted by Mr. F. J. Goodwin, and Mr. H. Forster followed, giving several examples of large doses. At the General Hospital carbolic lotion is coloured with eosin (1 in 100,000) to distinguish it from boric lotion, while lotio hydrarg. biniod. is tinted (to differentiate it from lotio hydrarg. perchlor. with a solution containing in each ounce 1 grain each of chrysoidin and methylene blue previously dissolved in 1 drachm of absolute alcohol. One minim of this solution is added to each ounce of the lotion. Mr. E. H. Trott mentioned a prescription for an ounce of ointment in which the powdered ingredients amounted to 7 dr. The prescriber, on being referred to, altered the amount of lanoline to 1 oz. (instead of "ad 5j.").

**Edinburgh District Chemists' Trade Association.**—The annual meeting was held at 36 York Place, Edinburgh, on Tuesday evening, June 1, Mr. C. A. Macpherson (Chairman) presiding. The Chairman intimated that a Parliamentary Representation Committee had been formed and that he had been invited to attend a meeting of it fixed for June 8. Mr. A. A. Murray, 133 Bruntsfield Place, and Mr. J. D. Horsburgh, Salisbury Place, were elected members. The seventeenth annual report, submitted by Mr. G. H. C. Rowland (Secretary), showed that the membership at present is eighty ordinary and four honorary members, being a decrease of thirteen. The report reviewed the work done during the year and was adopted. Mr. Geo. Somerville gave in the Treasurer's report, from which it appeared that seventy-eight subscriptions had been received and that there was a credit balance of 52*l.* 7*s.* 4*d.*, less a guinea for the current year's Federation subscription, as compared with a balance of 50*l.* 12*s.* 10*d.* at the end of last year. Mr. Glass reported on his visit to London last month and was thanked. The Secretary pointed out that if they wished their proposals with regard to the Federation of Local Associations to be successful they must send them to the various units in time to have them discussed before the delegates were sent. After discussion he was instructed to communicate with Mr. Jones about the matter. All the office-bearers were re-elected—namely, Mr. Macpherson, Chairman; Mr. R. L. Hendry, Vice-Chairman; and Messrs. A. J. Clark, A. Currie, J. Forret, W. S. Glass, Heddlemuir, J. L. Reid, C. F. Henry, P. Boa, and Lyon, Formulary Committee; Messrs. Glass, Boa, Clark, Currie, Forret, Henry Lyon, Macpherson, Rowland, and Stephenson members of committee. Votes of thanks were given to the Pharmaceutical Society and to Mr. Hill (Assistant Secretary) and his assistants, and it was agreed to give two guineas to the Benevolent Fund and one guinea to the Orphan Fund.

**National Union of Assistant Pharmacists.**—A meeting was held at the London College of Pharmacy, 323 Clapham Road, London, S.W., on May 31, Mr. C. Terry (Holloway) in the chair. Mr. Frederic Bullen (Streatham Hill), in the course of a carefully prepared speech, addressed himself particularly to those who had not joined the organisation, whose aims and objects he fully explained. He was proud of the progress of the Union, and expressed satisfaction that within the first year of its existence as a Union the Council of the Pharmaceutical Society had its first place taken by the youngest councillor the Society had yet had. (Applause.) Perhaps that gentleman owed something to their organisation. Junior pharmacy would at least keep its eye upon him. (Laughter and applause.) Mr. J. M. Dowty (President) next spoke, contending that 90 per cent. of pharmacists do not come within the description of professional men. How, he asked, could a man who worked ninety hours a week for 40*l.* or 50*l.* a year, living indoors, or from 90*l.* to 100*l.* living outdoors, be called a professional man? Speaking of the Union he said that those who remained outside organisations of that kind were always the biggest grumblers at the work they accomplished. Mr. C. F. Francis (Birmingham) also spoke, and claimed that after Mr. Dowty's exhortations the Birmingham Committee pointed the way. He referred to the deputation from the Union which is to wait upon the Home Secretary on June 8 in regard to the Shop Hours Bill. Mr. S. C. Farrer (Hon. General Secretary) stated that there are now 331 assistants on the register, 153 of whom have paid their first annual subscription. In the course of the discussion which followed Mr. Farrer read a

letter from the Hon. Secretary of the Liverpool Branch in which exception was taken to the organisation being formed on a trade-union basis. Mr. Mills (Manchester) stated that the members of his branch strongly objected to the trade-union basis. He added that if this were insisted upon many members of his branch would withdraw from the organisation. He mentioned that when he first qualified some time passed before he secured an appointment. In the previous week's *C. & D.* three or four situations in Manchester were advertised as open. The new Pharmacy Act, he said, had done this. Mr. Clark (Weston-super-Mare) also objected to the trade-union basis, and in reply to him Mr. Farrer stated that registration was necessary in order that their funds should be protected. He also read a letter from the Hon. Secretary of the branch at Newcastle-on-Tyne embodying a resolution passed by its members protesting against the clause fixing a minimum wage for qualified assistants. The resolution stated that until this clause was deleted from the Union's programme the branch could not hope for more members, as several on the Tyneside had refused to join on that account. A letter was read from the Home Secretary intimating his willingness to receive a deputation from the Union at the Home Office on June 8 at 12.45. The following gentlemen were named as members of the deputation: Messrs. Woolf, Hill, Catto, Hawkin, Francis, Smith, Clark, and Harrison, together with a representative each from the Army and Navy Stores and Boots, Ltd. It was left to the Executive to select from these those who will form the deputation. Mr. Hawkin submitted a request signed by many unqualified assistants asking that they be admitted members of the Union. This was referred to the Executive. The meeting concluded with votes of thanks.—A meeting was held in the Shaftesbury Temperance Hotel, Mount Pleasant, Liverpool, on May 26, when a branch for Liverpool and district was formed, the officers and executive appointed being: President, Mr. W. P. Cook (Birkenhead); Vice-President, Mr. E. A. Stewart; Hon. Secretary and Treasurer, Mr. Jas. B. Waldron; Executive, Miss F. H. Thoms, Messrs. T. Ashworth, H. Oldham, and C. E. Sendall. A motion regarding the Shop Hours Bill, similar in terms to others that have been printed, was passed.

#### Tunbridge Wells Association of Pharmacists.

THE annual meeting was held at 33 Mount Pleasant on Tuesday evening, May 25, Mr. B. Chatterton (President) in the chair.

**ANNUAL REPORTS.**—The Hon. Treasurer (Mr. A. J. Gower) presented his accounts for the year, showing that, while the expenses had increased, the income had expanded also, and a satisfactory balance remained. The accounts having been adopted, the Hon. Secretary (Mr. J. J. Webb) briefly recounted the principal occurrences in connection with the meetings, which were a record in number and, on the whole, were well attended.

**NEW OFFICERS.**—Mr. Chatterton, having vacated the chair, proposed, and Mr. Hobbs seconded, that Mr. J. H. Bishop be elected President for the ensuing year. Mr. Bishop, in thanking the members, alluded to the many services rendered to the Association by the retiring President, who had had an exceptionally onerous year of office. He proposed, and it was unanimously agreed,

That a hearty vote of thanks be accorded to Mr. Chatterton for the very able manner he had carried out his duties and for the great interest he had evinced in all matters affecting the wellbeing of the Association and the craft generally.

Mr. Chatterton, in acknowledging the vote, said the year had certainly been a busy one, which was only to be expected, considering that it was undoubtedly the most important year for pharmacy since 1868. He trusted that all which had been achieved both in Parliament and at the official headquarters in Bloomsbury Square would be of great and lasting benefit to all. Mr. A. J. Gower asked to be relieved of the post of Hon. Treasurer. This resignation was received with much regret, and, after a vote of thanks to Mr. Gower, Mr. J. J. Webb was elected Hon. Secretary and Treasurer and Mr. P. T. Gower Assistant Hon. Secretary. The following were elected on the committee: Messrs. Booth, Gower, Harden, and Phillips.

**SECTION 2 LICENCES.**—The Watch Committee of the borough was to hold a special meeting on Thursday, June 3, to consider the applications received for licences and to hear the evidence which the pharmacists are bringing before them showing why the licences in question should not be granted.



## Reviews.

### *An Intermediate Course of Laboratory Work in Chemistry.*

By EDWARD KENNETH HANSON, M.A. (Cantab.), F.I.C., and JOHN WALLIS DODGSON, B.Sc. (Lond.). 8½×5½. Pp. 124. 3s. 6d. (London: Longmans, Green & Co., 39 Paternoster Row, E.C.)

THE course of work given is stated to be the outcome of experience in preparing classes for the London Intermediate Science Examination. Useful experiments are gathered together, but the first impressions gained are not good. In the first experiment, chlorine is prepared from hydrochloric acid and manganese dioxide, but no instructions are given as to quantities to be used, how they are mixed or added, nor any details as to heating the mixture, all the information having to be gathered from the illustration. The second experiment gives the preparation of chloric acid, with a footnote that it should be performed only by more experienced students, which naturally makes a precocious youth only too anxious to try its explosive properties. More details are given in subsequent experiments, but many of them might with advantage be amplified. The lack of detail is evidently a portion of the scheme by which the student is encouraged to perform the useful task of completing equations and tests for himself, which results in a portion of the book being taken up with curious analytical tables in which the tests are given, but the results and inference are left to the student. Chapters are given on volumetric and gravimetric analyses, but again the instructions are not sufficiently comprehensive. In titrating oxalic acid with potassium permanganate, no instructions are given as to temperature except "a gentle heat"; while in titrating arsenious acid with volumetric solution of iodine, sodium bicarbonate (free from any trace of carbonate) is directed to be used. No test is given how to discover if the bicarbonate is unsuitable, and if the arsenical solution be rendered faintly acid before adding the bicarbonate of sodium this precaution is unnecessary since the carbon dioxide liberated converts any trace of carbonate into bicarbonate.

*Photographic Optics and Colour-photography, including the Camera, Kinematograph, Optical Lantern, and the Theory and Practice of Image-formation.* By GEORGE LINDSAY JOHNSON, M.A., M.D., B.S., F.R.C.S. 8½×5½. Pp. 304. Illustrated. 7s. 6d. net. (London: Ward & Co., 34 Craven Street, W.C.)

A WORK on optical instruments to cover the subjects of the Spectacle-makers' Company's examinations was much wanted, and no more suitable author could well be found than Dr. Lindsay Johnson, who has been examiner in optics for the Company. The best way to show the scope of the work will be to quote the subjects dealt with in the chapters: (1) The camera; (2) the lens; (3) formation of the image on the screen, and apparatus connected with it; (4) sensitometers; (5) colour-photography; (6) formation of the image on the plate; (7) the optical lantern. There is also an appendix of optical tables. The contents of the first chapter in detail are as follows: It commences with the pinhole camera, which is described, and the method of calculating the size of the aperture. Next is a mention of the camera obscura, and this is followed by a description of the movements of a modern camera, reflex, stereoscopic, panoramic, and film cameras. Then the zoetrope is referred to, Drysdale's speed-indicator (on the zoetrope principle), kinematographs, pocket-cameras, and camera-stands. This chapter covers forty-five pages, and in it there are about forty illustrations. Those who have heard Dr. Johnson lecture will recognise on reading this book that he writes as he speaks. He gives his opinion on any piece of apparatus in a characteristic manner. "It is quite useless for practical work"; "Shew makes a remarkably compact form"; "Butcher's stereo camera is a great favourite of the author's, being beautifully made, compact, and cheap," are samples of the comments which are made. Most people appreciate direct comments of this nature, but it does not follow that all will agree with the author, many of the things dealt with being matters of opinion. Turning now to the chapter on colour-photography, we find a good summary of the principles of colour-vision, then particulars

of Lippmann's and Joly's methods of colour-photography. Next are given details of three and two colour processes, and finally notes of the autochrome plates, the Warner-Powrie processes, and the Thames plates. Mention must be made of the beautiful colour-photographs which are given as illustrations to this chapter. It is difficult to say which is deserving of greater praise, the original autochrome plate or the three-colour reproduction as given here. In regard to the rather numerous errors in the book, these, we understand, have been indicated in the later editions, and will not, therefore, cause much trouble to the reader. The book is one which we can recommend to photographic chemists and chemist-opticians. We have found it interesting to read, and, as it is published at a comparatively cheap price, we have no doubt it will soon find favour with all students of applied optics.

## New Books.

These notes do not necessarily exclude subsequent reviews of the works. Any of these books printed in Great Britain can be supplied, at the published price, to readers of this journal on application (with remittance) to the Publisher of "The Chemist and Druggist," 42 Cannon Street, London, E.C.

Armstrong, H. E. *Low-Temperature Research at the Royal Institution of Great Britain, London, 1900-1907.* (Hodgkins Trust.) 2s. 6d. net. (Royal Institution.)

Ashcroft, E. A. *Study of Electrothermal and Electrolytic Industries.* Part I., Introductory. Cr. 8vo. 8s. 6d. net. (Spon.)

Baron, H. *Chemical Industry on the Continent. A Report to the Electors of the Gartside Scholarships.* 9¼×5½. Pp. 86. 1s. net. (Sherratt & H.)

Buchheister, G. A. *Handbuch der Drogisten-Praxis. Ein Lehr- und Nachschlagebuch für Drogisten, Farbwarenhändler usw.* 9th edit., by G. Otterbach. 9½×6¼. Pp. 1115. Unbound, 12m.; bound, 13.40m. (Julius Springer, Berlin.) [This book is a conscientious survey of the subjects which the German druggist should know. It deals with drugs and chemicals and such matters as photography, colours, varnishes, and manures. One section is devoted to trade law and commercial matters. There are over 350 illustrations.]

Burnet, J. *The Pocket Prescriber.* 4¼×2¾. Pp. 110. 1s. net. (J. Currie.)

Chemical Society. *Annual Reports of the Progress of Chemistry.* Vol. 5. 8½×5½. Pp. 304. 4s. 6d. net. (Gurney & Jackson.)

Collum, R. W., and Grav, H. M. W. *Præctice of Anæsthetics and General Surgical Technique.* 39 illus. 5×7½. Pp. 382. 10s. net. (Bale.)

Groth, L. A. *Welding and Cutting Metals by Aid of Gases or Electricity.* 9×5½. Pp. 298. 10s. 6d. net. (Constable.)

Heil, A., and Esch, W. *Manufacture of Rubber Goods: A Practical Handbook.* Illus. 9¼×6¼. Pp. 246. 10s. 6d. net. (C. Griffin.)

Hudson, Bernard. *Aids to Medicine.* 12mo. Pp. 262. 2s. 6d. net. (Baillière.)

*International Homœopathic Medical Directory, 1909.* 7¼×4¾. Pp. 159. 2s. 6d. net. Homœopathic Publishing Co., 12 Warwick Lane, London, E.C. [It is two years since the last edition of this directory was published, and consequently a good many alterations have been made in the names of medical men who practise the Hahnemann system of medicine. The names in the directory are classified under the countries where the practitioners reside, and the countries mentioned include practically all the civilised world. A list is also given of homœopathic chemists in Great Britain, seventy-four names being included. We note that there are also two homœopathic dentists and three homœopathic veterinary surgeons.]

Jensen, C. O. *Essentials of Milk Hygiene.* 2nd edit. 8vo. 7s. 6d. net. (Lippincott.)

Starling, Ernest H. *The Fluids of the Body.* 8¾×5½. Pp. 194. 6s. net. (Constable.)

Wallsgrave, J. C. H. *First Steps in Photography.* 4th edition. 7¼×4¾. Pp. 127. 6d. (Lund, Humphries & Co., 3 Amen Corner, London, E.C.) [The author is a chemist and druggist who has specialised in photography. The book is intended as a guide to beginners in photography, and is not written to recommend special products. It describes the uses of the various apparatus and the chemical operations involved in making negatives and positives.]



# INTERNATIONAL CONGRESS OF APPLIED CHEMISTRY PROCEEDINGS IN LONDON

May 27 to June 2, 1909.

ON June 3, 1903, thirty-eight British chemists met, under the presidency of Professor W. A. Tilden, in a committee-room of the German Parliament House, Berlin, and decided to invite the International Congress of Applied Chemistry to hold the sixth meeting in London in 1906 (the Congress meets once in three years). The Italian chemists who were at Berlin went with an invitation to make Rome the meeting-place in 1906, and when the matter came to the vote on June 8, 294 voted for Rome and 274 for London. So British chemists resolved to repeat the invitation for 1909, and when it was accepted they were determined to make the seventh Congress such a success in every way that all would realise what the couplet means:

Better loo'ed ye canna be;  
Will ye no' come back again?

The work for the reception of the Congress began soon after the British delegates came back from Rome three years ago. Sir H. E. Roscoe had been appointed Hon. President and Sir William Ramsay Acting President, while Mr. William Macnab undertook the heavy duties of Hon. General Secretary. There have been many willing helpers: thus Mr. W. F. Reid has acted as a peripatetic propagandist, besides assisting at headquarters in organising, and the knowledge of tongues which he and Dr. Lewkowitsch possess has been of the greatest value. The almost simultaneous annual meeting of the Society of Chemical Industry in London was also helpful, a splendid combination of forces thus being secured.

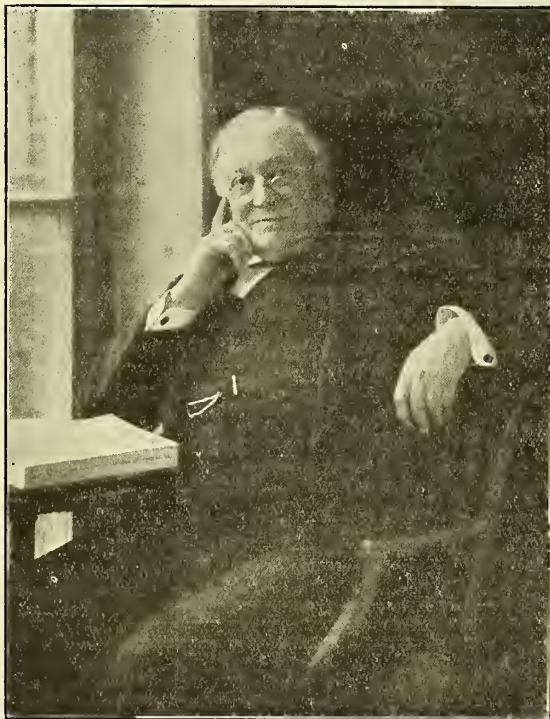
We hinted last week that the London Congress was to be distinguished from its predecessors by the hospitality extended to members and visitors. It has proved so, and

we are but expressing the opinion of several nationalities other than our own when we say that all have been delighted by entertainments which were eminently lavish, and as eminently friendly and hearty. The organisation, too, in spite of a ripple here and there, has been the admiration of those who have visited other Congresses.

As reported last week, the first General Session of the Congress was held in the Albert Hall on Thursday afternoon, May 27, the Prince of Wales (Vice-Patron of the Congress) presiding. In declaring the Congress open, his Royal Highness said:

Your Excellencies, my Lords, Ladies, and Gentlemen,—It gives me much pleasure as Vice-President to preside over the first meeting of this important International Congress of Applied Chemistry and the Princess of Wales is very glad to accompany me on this occasion. (Cheers.) Delegates and members, including many ladies, have come not only from every country in Europe, but all parts of the world—literally from China to Peru. (Laughter.) Six Congresses have already been held in the various capitals of Europe. This is the first time that you have assembled in London, and in the name of the King, who is patron of this Congress, I offer you his Majesty's most hearty welcome. (Loud cheers.) His Majesty is very glad to think that the foreign representatives will be able to visit Windsor Castle during their stay in this country. (Cheers.) The main object which you all have in view is, I assume, to discuss in your numerous Sections the many topics of interest and im-

portance that are continually arising owing to the marvellous discoveries which the science of chemistry, both pure and applied, is making from day to day. Those interested in some special branch meet in the different Sections their *confrères* from other lands to their mutual benefit. In the larger gatherings, which I am glad to see have been arranged by the committee, members will have further opportunity of social meeting. These Conferences, whether of a scientific or of a more intimate character, between men living in distant lands, all working for the same object, although under different conditions, cannot but be favourable to the



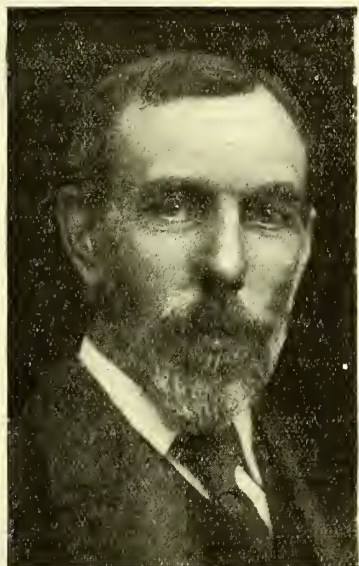
SIR HENRY ENFIELD ROSCOE, F.R.S.

[Photo, Ernest H. Mills.]



progress of science and of the industries to which many of you have devoted your lives, as well as to the general peace of the world. (Cheers.) I fully appreciate the important part which chemistry plays in almost every branch of our modern industry. We all recognise that without a scientific foundation no permanent superstructure can be raised. (Hear, hear.) Does not experience warn us that the rule of thumb is dead, and that the rule of science has taken its place—(cheers)—that today we cannot be satisfied with the crude methods which were sufficient for our forefathers, and that those great industries which do not keep abreast of the advance of science must surely and rapidly decline? On behalf of the Princess of Wales and for myself, I offer our cordial greetings to the members of the Congress, and I earnestly trust that great results may accrue from your deliberations. I now have much pleasure in declaring the seventh International Congress of Applied Chemistry open. (Loud cheers.)

This speech was heard in all parts of the hall, so well was it pronounced. It is computed that nearly 4,000



SIR WILLIAM RAMSAY, K.C.B.

persons were present. The Prince then called for Sir Henry Roscoe, who expressed the thanks of the Congress to the Prince and Princess of Wales for their presence. Sir William Ramsay, who was next called upon, made a speech of welcome reminiscent of the history of the Congress, and he mentioned that the surplus funds collected by Italy for the Congress at Rome were devoted to paying the expenses of a small band of young Italian chemists who visited this Congress—a fact which was received with cheers. Dr. Harvey W. Wiley then replied for the United States, Professor Armand Gautier for France, Dr. Otto N. Witt for Germany, Professor E. Paternò for Italy, and Professor Arrhenius (Stockholm) for other foreign countries; after which Sir Frederick Bridge played the National Anthem on the organ, this closing the proceedings.

An hour later most of the Sections met to arrange finally the programmes of proceedings, which commenced in earnest on the following day, when the President of each Section inaugurated the proceedings with an address. In succeeding sessions the permanent Presidents' chairs were taken by chemists whom the Sections delighted to honour. The following is a list of the Sections and their permanent Presidents:

- I. Analytical Chemistry, Professor T. E. Thorpe, F.R.S.
- II. Inorganic Chemistry and Allied Industries, Dr. Ludwig Mond, F.R.S.
- III. (a) Mining and Metallurgy, Sir Hugh Bell, Bart.
- III. (b) Explosives, Sir Andrew Nohle, Bart., F.R.S.
- IV. (a) 1. Organic Chemistry and Allied Industries, Professor W. H. Perkin, F.R.S.
- IV. (a) 2. Physiological Chemistry and Pharmacology, Professor Cushman (Vice-President; the late Dr. Gamgee was President).
- IV. (b) Colouring Substances and their Uses, Professor R. Meldola, F.R.S.

V. Industry and Chemistry of Sugar, Sir Richard C. Garton.

VI. (a) Starch, Sir Walter Palmer, Bart.

VI. (b) Fermentation, Colonel John Gretton, M.P.

VII. Agricultural Chemistry, Dr. J. A. Voelcker.

VIII. (a) Hygiene, Sir James Crichton-Browne, F.R.S.

VIII. (b) Pharmaceutical Chemistry, Mr. N. H. Martin, F.R.S.E.

VIII. (c) Bromatology, Mr. R. R. Tatlock.

IX. Photo-Chemistry and Photography, Sir William Abney, K.C.B., F.R.S.

X. Electro-Chemistry and Physical Chemistry, Sir John Brunner, Bart.

XI. Law, Political Economy, and Legislation Affecting Chemical Industry, Lord Alverstone, F.R.S.

In many of the Sections papers were communicated which interested pharmacists, but it is necessary in this report to confine ourselves chiefly to the Pharmaceutical Section, the proceedings of which are fully dealt with, and it is worthy of note that *THE CHEMIST AND DRUGGIST* was the only British journal of pharmacy represented thereat by its staff from beginning to end of the proceedings, and thus the only journal which has endeavoured to report the pharmaceutical part of the Congress in a manner consistent with its importance. The attempt of any individual to cover all the Sections was, in the nature of things, bound to end in disaster, and, as to reporting the whole, "The Times" of June 1 rather acridly remarked:

If congresses had as much respect for time as newspapers are compelled to have for space, they would reform their programmes, which have drifted into an impossible state. These learned gatherings suffer from the great industrial evil of the day, excess of production over consumption; and the present Congress is a conspicuous example. To use an appropriate metaphor, it is choked with its own waste products, some of which are solid and others gaseous. Yesterday so much was set down on the agenda that some eight Sections, not content with morning sittings from 10 to 1.30, had to hold afternoon ones as well from 4 to 6, with a general lecture in between, and then a great many papers were not reached. Flesh and blood cannot be expected to stand it.

In a later article our contemporary, referring to the closing of the Congress, said more truly: "In spite of the very large number of members—announced to reach a total of 3,650, including ladies—everything has worked smoothly; interest in the serious proceedings has been keen and sustained; hospitality has been abundant and thoroughly enjoyed, and perfect harmony has prevailed in a polyglot atmosphere. One of the foreign delegates observed that the success of previous congresses had been due largely to careful selection of presidents. England has not failed on the present occasion. Second to none in scientific achievements and able to use several languages in turn, Sir W. Ramsay has filled the post with dignity



MR. MACNAB.

and urbanity. Mr. Macnab, the Secretary, has endeavoured to satisfy everybody, and, with the help of an excellent staff, he has come as near success as can reasonably be expected in mundane affairs."



## GENERAL LECTURES

were a feature of the Congress, as they have been at previous meetings. These were given in the large temporary hall of the University of London (Imperial Institute), the first, on Friday afternoon, May 28, being by Professor Paternò (Rome) and Professor Haller (Paris). The first-named dealt with

## RECENT ADVANCES IN SYNTHETIC CHEMISTRY.

In the course of his lecture Professor Paternò said:

The classical processes of synthetic chemistry are inadequate for the future. Man seeks to approach ever nearer to Nature in his work; and while his success was obtained piecemeal and painfully in the laboratory by indirect and tortuous paths, Nature proceeds with a simplicity as great as it appears to us mysterious. Chemists begin by looking only to the end without regarding the means, but now that the end is attained they return to the task of obtaining the same and even better results by simpler means. In order to make organic synthesis more direct, more rapid, and more approximate to natural conditions it is necessary to have a thorough knowledge of the changes effected by the action of light, of micro-organisms, of enzymes, and of catalytic substances. Great help might and should be obtained from the use of catalysing agents, but it has become necessary to make the so-called reactions of contact, catalysis, or induction more clear. Under the name of catalytic action chemists have included in turn several reactions essentially different, and he thought their best hope lies in the observations on the variation of certain reactions with the nature of the catalyser. He discussed the so-called synthetic reactions obtained by various agents, such as enzymes, micro-organisms, and sunlight, calling the attention of young chemists to the importance of this field of observation.

Professor Haller's lecture was devoted to

## NATURAL AND ARTIFICIAL CAMPHOR,

although at the outset he spoke of chemical synthesis also, and used camphor as an example of its possibilities. One of the most interesting passages of the lecture was as follows:

Since 1899 Japan has secured the monopoly of the camphor-crop throughout its territory and in Formosa. According to statistics published in a Japanese journal and reproduced by THE CHEMIST AND DRUGGIST, the amount of camphor exported from Japan increased from 280,892 kilos., valued at 200,452*fr.*, in 1868, to 1,834,594 kilos., valued at 13,069,831*fr.*, in 1907; and during the same time the price increased from 6*fr.* to 708*fr.* per 100 kilos. In spite of an increasing production in China it appears from the statistical evidence that the aggregate output of camphor is not increasing, and it may be expected gradually to diminish. Since the demand goes on increasing, it is easy to understand the high prices reached, which have driven manufacturers of synthetic camphor to make up the deficiency. He sketched the rise of the new industry since 1905. All the processes of manufacture start with pinene, obtained from oil of turpentine, and upon the price of that oil largely depends the success of synthetic camphor. The numerous methods employed are improvements or variants of reactions previously known. They may be divided into two large groups according to whether the oil is first converted into pinene hydrochloride or is submitted direct to the action of organic acids. He told what was done by manufacturers while high prices lasted, and, referring to experience with madder and indigo, asked, Will the same thing happen with camphor? It would be rash to say so, for various reasons. The conditions are very different both with regard to the supply of the natural product, the cultivation of which has been freshly stimulated, and with regard to the fundamental substance used in producing synthetic camphor—namely, oil of turpentine, the supply of which was limited and the price fluctuating. For these and other reasons the future of the camphor industry is, he concluded, uncertain.

The lecture given on Monday afternoon in the Great Hall by Dr. Otto N. Witt was on

## EVOLUTION IN APPLIED CHEMISTRY.

There were about 700 members and a goodly number of ladies in the hall, and Sir William Ramsay presided. The lecture commenced with a reference to the memorable meeting of the Linnean Society fifty years ago, in which the flaming truth of evolution was given to humanity by Darwin—one of the greatest minds, said Dr. Witt, that ever stood up among men. Evolution is no longer a working hypothesis of natural science, but has become a new way of thinking, a method of harvesting everlasting truth from the fleeting changes of passing life. He thought that England, the country which has given to all the other

nations this invaluable gift of evolution, should extend it to applied chemistry. He proceeded to suggest the lines on which this might be done, and in the course of his remarks dealt with the problems of waste, the remedying of which has resulted in some of the most important advances in technical chemistry. In an exceedingly interesting passage he referred to symbiosis showing that chemical industry is essentially symbiotic, for a solitary chemical factory is a practical impossibility. Chemical works come in shoals if at all. Manufacturers of sulphuric acid must have round them manufacturers of other chemicals who use their product. The picture which Dr. Witt thus conjured up of the shoals of factories inducing commercial success to all

and prosperity to the country in which they are situated was a bright view of competition which seemed to be appreciated. Sir James Dewar, in moving a vote of thanks to the lecturer, caused a laugh by saying that it was singular that so eminently suggestive an address should be delivered in that Hall on a great national holiday—Whit Monday. The vote was seconded by Dr. T. E. Thorpe, and acknowledged by the lecturer with a bow.

## LIQUID FUEL

was the subject of the final general lecture by Sir Boverton Redwood on Tuesday afternoon. In this he referred to the sources and uses of petroleum, and discussed its advantages as compared with coal as a source of heating for boilers. He mentioned the results which had been obtained in the Navy by the use of oil fuel for water-tube boilers and turbine engines, chiefly in the smaller vessels, and in his concluding remarks gave a warning against indulgence in extravagant anticipations regarding the extent to which liquid fuel may replace coal. One reason for this warning is that the petroleum available throughout the world is, in comparison with the available coal, but a small percentage. Nevertheless, he suggested that every effort should be made to increase the output of petroleum by the countries where it is found.

## NITRATES FROM THE AIR.

The fact has almost been forgotten that the first announcement in regard to the utilisation of atmospheric nitrogen for the manufacture of nitrates was made at the Congress in Berlin six years ago. It is remarkable, therefore, that an air of novelty still clings to the subject, and there was a large audience last Saturday at a general meeting presided over by Professor H. E. Armstrong, at which Dr. A. Bernthsen delivered a lecture on the subject. Dr. Bernthsen stated that the equivalent of 300,000 tons of nitrogen is used in agriculture annually in the form of sodium nitrate, and the available supplies of natural nitrate are within a calculated end, but there is sufficient nitrogen in the air to produce 14,000,000,000 years' supply of nitrate. He predicted that after a few years the annual output of nitrates from the air will reach 100,000 tons (see p. 884).



DR. O. N. WITT.



SIR BOVERTON REDWOOD.



## PHARMACEUTICAL CHEMISTRY SECTION.

The meetings of this Section were held in the University of London building, in a spacious room facing the Royal College of Science. Two large tables were placed on one side of the room and surrounded with comfortable chairs, while other chairs were placed in rows in the front. Mr. N. H. Martin, Ph.C., F.R.S.E., of Newcastle-on-Tyne, sat in the President's chair during the first day, with Mr. E. F. Harrison, Ph.C., B.Sc., at his right hand, and on other days, when Presidents of Honour occupied the chair, Mr. Martin sat at their left. Dr.



Goldmann (Berlin) acted as German secretary, and M. Herissey as French secretary throughout the week.

### Friday Morning Session, May 28.

Mr. Martin, on taking the chair, said he proposed to say a few words on

#### THE HISTORY OF APPLIED CHEMISTRY IN ITS RELATION TO PHARMACY.

From the time of Paracelsus and Basil Valentine up to the beginning of the nineteenth century chemistry was continuously the debtor to pharmacy both on account of the number of substances which were investigated with a view to their use as medicines and also for the number of chemical investigators who commenced their career in connection with medicine. He mentioned one of these investigators—Sir Humphry Davy, who, as an apothecary's assistant, laid

and such as gave off noxious vapours were made on the leads of their houses. From these beginnings grew up factories in which individual chemicals were made on a larger scale, and many new and improved processes were devised, to the great enrichment of the fortunate pioneer of that particular chemical. Thus one hears of Dr. Samuel Towers, who, at the end of the seventeenth century, with his brother, established a factory, and among other things made oxalic acid on a large scale, and is reported to have had one customer who took 13 cwt. a week at 7s. 6d. per lb. It is worth noting that as far back as that the same firm was engaged in manufacturing chemicals for the Royal Laboratories at Woolwich Arsenal—an illustration of the fact that up to very recent times it was a common thing for all classes of people who required to use chemicals for any purpose to turn to the men who by their experience in making pharmaceutical chemicals had acquired the necessary skill to enable them to produce the salt or combination required. The variety of the substances with which they had to deal, the manipulative devices to which they had to resort, and the chemical knowledge they possessed made the pharmacists of that day the persons whose aid it was natural to seek in all difficulties needing chemical knowledge for their solution. The successors of the Towers made many other chemicals, including Rochelle salt, bicarbonate of soda, iodine and iodides, bromides, chloroform, etc. It is worth a passing notice that in all probability the needs of medicine have been an important factor in increasing the demand for many chemicals in a purer form and more free from admixture than would have been the case otherwise, and to the elaboration of more delicate tests for such purity. Arsenic, which is now easily detected when present only to the extent of one part in a million or more, may be cited as an example.

#### ACTIVE PRINCIPLES OF DRUGS.

As far back as the sixteenth century Paracelsus thought if plants could be made to yield their active principles it would be better to employ those principles than the crude originals; but it was not until the beginning of the nineteenth century that the wisdom of the philosopher's idea was realised by the isolation of the important constituents of cinchona-bark and opium. Almost immediately chemists in this country, in France, and in Germany set to work, and soon presented to medicine the alkaloids quinine and morphine in a state of purity and in the form of various salts. This was followed by a number of other alkaloids—atropine, caffeine, cocaine, codeine, strychnine, and others—and the demand for some of these soon outstripped the supply and led to the artificial production of pharmaceutical products—for example, codeine from morphine by the use of methyl chloride—and subsequently to other substitution compounds of morphine which are still in use. In this country morphine was manufactured on a commercial scale as early as 1833, and although there are names among London chemists associated with its first production, Edinburgh, due probably to Dr. Gregory's process giving such good results combined with the persistent research work of two chemists—D. R. Brown and Thomas Smith—soon became the chief centre of its manufacture, and for the greater part of a century the Old World was supplied from Edinburgh houses which still hold a premier place in the world's output of this important alkaloid.

Turning to quinine, this alkaloid appears first to have been made in England by T. N. R. Morson, who was the first to manufacture and introduce many other important chemicals, including aconitine. For a long time, however, in this country, and probably over a large part of the habitable globe, the association of quinine has been mainly with Stratford and the name of Howard. It is interesting to quote the experience of this firm that "in the early days, quinine was little thought of, being merely one among the many somewhat obscure medicines then in demand"; and then to trace how it came into greater use, and how the demand for it was so extensive and the natural supply so limited that this substance probably acted as a greater stimulus than any other to research in



MR. N. H. MARTIN.

the foundation of that wide chemical knowledge which led to his many discoveries which had such important influence on medicine and on technology. At the beginning of the last century the study of pharmacy was the main road to pure chemistry, and pharmacy therefore may, without undue presumption, claim to be the pioneer and to have provided the training ground for many of the men who have built up the gigantic edifice of industrial chemistry which is represented by the larger Sections of the Congress. He had put himself into communication with some of the firms in this country which have been honourably associated for generations with the development and manufacture of important pharmaceutical chemicals, such as salts of bismuth and mercury, of iodine and its combinations, of chloroform, morphine, quinine, strychnine, and other substances, and it is extremely interesting to note what a number of chemicals were manufactured in the latter half of the seventeenth century and the early years of the eighteenth. Within a comparatively short distance of the place of meeting the apothecaries in London were accustomed to make many of the chemicals which were required in their prescriptions,



the direction of the synthetic production of medicinal bodies, and incidentally to the great aniline-dye industry which has grown to such enormous proportions.

It is difficult to imagine the pre-alkaloid days, when men, without a single achievement to guide their steps, were groping with only the expectant hope that plants could be made to yield their active principles. But, although an immense amount of work has been done, there still remain many well-known drugs which have not yet yielded up the whole secret of their activity; and recently biological testing has been called to supplement chemical investigation to determine the probable therapeutical potency of given specimens of such drugs as cannabis indica, digitalis, ergot, squill, and others. To discover and isolate the true medicinal factors in these drugs is still among the desiderata of pharmaceutical chemistry. In the meantime, synthetical chemistry, which, since 1832, has given many valuable therapeutical agents, goes on adding to the number—indeed, as soon as the chemical structure of a body has been ascertained, its artificial preparation is almost sure to follow, and, in some cases, improvements are made by the variation of certain groups of atoms.

#### AT THE PRESENT TIME.

Applied chemistry has thrown much light upon the constitution of essential oils, and many substitutes for these have been produced synthetically; but in this department it must be acknowledged that in many cases there are limitations, and the utmost endeavours of the chemist have not yet equalled the gifted and trained olfactory nerve of the practical expert in ability to estimate the purity and value of certain essential oils, nor have they introduced synthetic substitutes which equal in aromatic value the majority of these complex bodies.

The chemistry of remedies derived from animal tissues also offers a wide field for research at the hands of the pharmaceutical chemist. Although but a few years have elapsed since the vaso-constrictor element of the suprarenal

capsules was separated, its synthetic production has already been accomplished; but the interesting experiments of Professor Cushny, published in the March number of the "Journal of Physiology" show how easily important points may be overlooked. Pasteur was the first to point out the relationship between optical properties and chemical constitution, and later Gladstone indicated the quantitative relationship between chemical structure and optical properties; and in examining the synthetic preparation first put forward, Professor Cushny found it was a racemic body of approximately only one-half the activity of the natural substance which is levorotatory. No substance has yet been isolated representing the full activity of the thyroid gland, but a careful consideration of some of the problems involved has given useful practical results. Thus, recently Dr. Reid Hunt, of Washington, in confirmation and amplification of the conclusions of earlier workers, has demonstrated that the physiological activity of the gland can be measured in exact terms by its iodine content, thereby placing, it would seem, at the disposal of the pharmaceutical chemist an excellent means of estimating thyroid preparations. As the percentage of iodine is small and no other known combination of iodine possesses the same physiological and therapeutical properties, its activities must be due to the manner in which it is linked to the other constituents in the molecule. The discovery of this and the exact physical and chemical constitution of the complex organic molecules which act as remedies would throw a flood of light upon many of the difficult problems in our investigation of drugs. Chemists separate many substances, such as morphine, quinine, strychnine, and call them active principles, and such they are, as proved by clinical experience; but the object of pharmaceutical chemistry should be to discover in what physical and chemical condition these exist in the plant or animal, so as to be able to present to medicine the principle, or its synthetic counterpart, in a form which will faithfully represent the combination which exists in the natural condition.



MEMBERS OF THE PHARMACEUTICAL CHEMISTRY SECTION.

[Photo. by the Dover Street Studios, W.]

Front row (from left to right)—Dr. Takamine, Mr. D. Hooper, Prof. Bourquelot, Mr. Martin, Dr. Thoms, Mr. Harrison, Dr. Goldmann. Second row—Prof. Prschibyteck, Mr. Caines, Mr. Brewis, M. Leger, Mr. Holmes, Dr. Lenz. Third row—Mr. Bennett, —, Mr. Ferrein —, Dr. Houghton, Dr. Morselli, Mr. Maben, Mr. Lecher, Mr. W. Thoms, M. Donergue, —, M. Herissey, Mr. Swan, —.



The reading of the papers was then commenced, the first being

# COMPOSITION OF EUPATORIUM REBAUDIANUM.

By Dr. Karl Dieterich.

The sweet-plant of Paraguay (Kaá-Hê-E), *Eupatorium Rebaudianum*, also known as "honey-herb," is employed in the country where it is found for sweetening Paraguay tea (Maté). Some writers have stated that the sweet material in the plant is akin to glycyrrhizin, but, as pointed out by Rasenack, this is incorrect. Rasenack first isolated a crystalline sweet substance from this plant, to which he assigned the formula  $C_{12}H_{16}O_{21}$ , and stated that it was of the nature of a glucoside. Independently the author has begun to examine the plant and obtained the sweet material by an entirely different method. The plant was exhausted with water and the extract treated with alcohol. In this way the sweet material was obtained as a dark brown, resin-like substance, sweet with a bitter after-taste. This was found to consist of two sweet substances—eupatorin and rebaudin—besides fatty oils, resin, and bitter substances. The differences between these two substances were thus shown:

<i>Eupatorin</i> ,	<i>Rebaudin</i> ,
soluble in absolute alcohol	insoluble in absolute alcohol,
crystalline with no exact m.p.	cannot be crystallised.
yellow ppt. with NaHO.	Ash contains Na & P.
150 times sweeter than sugar.	180 times sweeter than sugar.
	More abundant.

The author then gave the characteristics of the resin, fatty oil, and the bitter substance referred to above, and went on to discuss the uses to which the sweet substances might be put in pharmacy. At present the plant is not readily obtainable, but its cultivation might be undertaken and the leaves could then be employed in powder form as a sweetener for foods and tea. Eupatorin and rebaudin might be employed for sweetening pharmaceutical preparations where sugar is inadmissible on account of the viscosity which sugar gives. Mixed with tea the leaves would act as a sweetener and render unnecessary the employment of sugar in the infusion. It would be necessary, however, to undertake first experiments to prove that the sweet substances are innocuous.

Mr. D. Hooper (Calcutta) mentioned that the leaves of *Abrus precatorius* contain a sweet principle which he had identified as glycyrrhizin.

Mr. E. M. Holmes said that the plant investigated by Dr. Dieterich had been examined at Kew and referred to *Stevia-collina*. He also mentioned other sweet plants, such as *Sideroxylon dulcificum*, N.O. *Sapotaceae*, from the Guinea coast, and *Thaumatococcus Danielli*, Benth. et Hook., N.O. *Scitamineae*, from the Soudan. These have disappeared from commerce but are no doubt still in use as sweetening agents by the natives.

Dr. Siedler (Berlin) thought the idea of adding the leaves to maté an excellent suggestion. The same method could be applied for sweetening coffee.

Dr. Dieterich in reply mentioned that the culture of the plant has already been taken in hand in Paraguay.

The next paper was

## ON HORDENINE.

By M. E. Léger.

This substance is an alkaloid obtained from barley in the process of malting. It is in the form of orthorhombic crystals, fusible at 117.80° C., and acts as an energetic base, reducing potassium permanganate and iodic acid, but resists caustic potash. Hordenine is *p*-oxy-phenyl-ethyl-dimethyl amine,  $C_{10}H_{15}NO$ , this having been established by many experiments. It gives with acids, such as hydrochloric and sulphuric, crystalline salts, and phenol derivatives, such as benzoyl hordenine, have been prepared. It is similar in action to Gautier's tyrosine. In medicine it is used in hyperchlorhydrosis, enteritis, diarrhoeas, dysentery, and cholera. Samples of the alkaloid were passed round the room.

Mr. F. H. Lescher, speaking in French, asked what was meant by the "touraillons" of barley from which the alkaloid was stated to be prepared.

M. Léger explained that hordenine was first discovered in malt-kilns (*touraillons*).

M. Noel Delatte (Mons) inquired regarding the dose of hordenine.

M. Léger replied that there is no fixed dose at present: one has to find out from experiment how much should be given in each particular case. It is innocuous, as there was a case recently where a gram was administered to a suckling child, without ill results.

Dr. W. Lenz (Berlin) commented on the very interesting nature of the alkaloid.

The next paper was

## MATICO LEAVES AND OIL.

By Prof. H. Thoms.

Nowadays one seldom finds *Piper angustifolium*, Ruiz and Pavon, in a pure unadulterated condition. The yields of oil from the leaves range from 0.3 to 4 per cent., and the properties of the oils vary greatly. The crystalline matico camphor which used to be found thirty years ago in matico oils is never found now. Petersilienapiol, dillapiol, and asarone are present in addition to terpenes, sesquiterpenes, and cineol in matico oils. Professors Gilg, of Berlin, and De Candolle, of Geneva, assisted Professor Thoms in identifying the leaves which were used for examination. A supply of leaves was, for example, obtained from Huanuco in January 1908. Usually matico-leaves come from Southern Peru. This consignment contained to the extent of only three-quarters of its bulk *Piper lineatum*, while the remaining quarter could not be identified with any known member of the *Piperaceae*. The oil obtained by distillation (0.59 per cent.) gave a crystalline body which was a mixture of Japan camphor and borneol. A further supply of the leaves contained a much smaller proportion of *Piper lineatum* and a larger proportion of *Piper camphoriferum*, the name coined by De Candolle to indicate the camphor-producer. There was a further leaf present, identified as *Piper angustifolium*, var. *Ossanum*. The three types of the leaves were distilled separately.

*Piper camphoriferum*, De Candolle.—The yield from this was 1.11 per cent. Sp. gr. 0.9500 at 20°. [ $\alpha_D^{20}$  = +19° 21'. A crystalline body was obtained from the oil consisting of two parts camphor and one part borneol. Terpenes and a sesquiterpene alcohol were also obtained in addition to the camphor.

*Piper lineatum*, Ruiz and Pavon.—The yield of oil from this leaf was 0.44 per cent. [ $\alpha_D^{20}$  = +8° 45'. Sp. gr. 0.958. The oil contains no camphor, but large quantities of sesquiterpenes. There was insufficient material to go very deeply into the chemistry of this specimen.

*Piper angustifolium* var. *Ossanum*, De Candolle.—Leaves very rough, on the inside long white hairs. Yield of oil, 0.87 per cent. A camphor mixture was also obtained on distillation.

Professor Thoms had also received a sample of unknown matico leaves which were 25 cm. long and 13 to 20 cm. broad, and much less pointed than the customary leaves of commerce (*Piper angustifolium*). De Candolle found in one portion of these *Piper acutifolium*, secondly an unknown piper, and again another leaf bearing some resemblance to the first. A second sample consisted principally of *Piper acutifolium* var. *subverbascifolium* and small quantities of *Piper mollicomum* and *Piper asperifolium*.

*Piper acutifolium* var. *subverbascifolium* has the leaf-basis unequally developed—one half of the leaf shortly rounded off and the other correspondingly enlarged; upper and lower surface hairy. Yield of oil, 0.8 per cent. [ $\alpha_D^{20}$  = +0° 24'. Sp. gr. 1.10 at 20°. The oil contains 1½ per cent. acids and phenols, as also pinenes and dillapiol.

Schimmel & Co. also provided Professor Thoms with a supply of oil and a sample of the leaves from which the oil had been obtained. The leaves in question were rounded on both sides and heart-shaped, otherwise they were similar to *Piper acutifolium*.

*Piper acutifolium* var. *subverbascifolium*.—Heart-shaped leaves. De Candolle is of the opinion that these are the lower leaves of plants of *P. acutifolium* var. *subverbascifolium* which had not yet bloomed. Schimmel obtained 0.8 per cent. of oil from this. Sp. gr. 0.959 at 20°. [ $\alpha_D^{20}$  = +0° 24'. Two per cent. of acids and phenols. Contains large quantities of sesquiterpenes and a small quantity of dillapiol.

Professor Thoms emphasised the necessity of the co-operation between botanists and chemists in research of this nature. The original paper (appearing in the "Apoth. Zeitung") should be consulted for the exact botanical descriptions of the leaves, which cannot be given in an abstract.

The President having made some remarks,

Mr. E. M. Holmes said that matico has almost gone out of use in this country. It was a mixed drug for many years, and this may have led to its neglect by doctors. The work on the essential oil shows great diversity, probably for the same



reason. Only botanists know the difficulty that is experienced in identifying the various leaves that go under the name of matico, but Professor Thoms seemed to have been fortunate in obtaining material which could be easily identified.

Mr. F. H. Lescher said that speaking from a commercial point of view the drug has almost gone out of use. Less and less of the drug is sold as the years go by. As to matico oil he doubted if it could be found in any pharmacy in London except, he added, at Mr. Martindale's, where so many out-of-the-way drugs are stocked.

Professor Thoms said the drug is not much used in Germany.

Professor H. G. Greenish said that possibly the structure of the epidermis would show a difference in the leaves that are so similar.

Professor Thoms said he would look into that point.

Dr. E. Gildermeister (Miltitz) said his firm (Schimmel & Co.) found that the oil from the stalks is very different from that of the leaves, and care is taken to separate these. Before distilling matico oil care is taken to see that the leaves are botanically correct. The yield of oil varies greatly from different parts of a bale of leaves, so much variation as 0.8 to 1.6 per cent. having been noticed.

Mr. E. M. Holmes, F.L.S., dealt in the next paper with

#### THE NECESSITY FOR THE APPLICATION OF BOTANICAL KNOWLEDGE TO THE CHEMICAL INVESTIGATION OF PLANTS.

Chemical investigations of plant-products are, he said, often founded upon the material obtainable in commerce. This is very liable to be of a varied nature if obtained from different countries, as has been shown in the cases of aconite-root, strophanthus-seed, jaborandi-leaves, coca-leaves, and other drugs. In some cases these commercial materials contain different active principles. When the active principles obtained are used in medicine and pharmacy, particularly when they are of a powerful character, as in aconite, strophanthus, and curare, it is important that the investigations should be made upon material that is derived from one species, or it can prove of little practical value, and may lead to dangerous results. Moreover, the work done can in such cases be of little real scientific value, and has to be repeated by different investigators, even if the same process of extraction be followed. The author suggested that the material used should be guaranteed pure by a competent botanist and histologist before it is subjected to chemical analysis.

The President said what the paper really means is that investigation on vegetable materia medica should be begun afresh on drugs that have been certified as correct by a botanist. One of the difficulties of a young worker is to obtain fresh supplies of the same kind of a particular drug when he runs short of his first sample. At Washington the Government chemists are preparing to investigate drugs which they have grown from seeds of known plants. It is intended to secure the co-operation of experts in climate, soil, and botany.

Dr. Atherton Seidell (Washington) confirmed the latter statement.

Professor Thoms said the result of co-operation would be that all would be better friends than before.

Professor Greenish said it is impossible to under-rate the importance of the subject, at the same time it must be remembered that there is something to be said for the other side—there are many drugs so much alike that the medicinal activity is probably the same. He agreed that the co-operation of botanist, histologist, etc., is very desirable, but these combinations are difficult to get or at least to have handy.

The President: It could be arranged by the State.

Mr. E. F. Harrison (the Secretary) recalled the work on aconitine by Dunstan, much of which had been done in the building in which the Congress was being held. It will be remembered that much controversy arose over the formula, and that this was eventually found to be due to the fact that the aconitine from English-grown aconite-root is different from that of German-grown plants. Dunstan's aconitine was obtained from plants especially grown by Mr. E. M. Holmes.

M. H. Herissey (French Secretary) then read the following paper on behalf of the author:

#### ELATERIN.

By Professor A. Berg.

This paper recalled that the author had shown some years ago that elaterin does not exist in the fruits of *Ecballium elaterium* but is formed during their expression by the action of a special diastase, elaterase, on an amorphous glucoside. Since then the author has made cryoscopic determinations with a view to fixing the formula.

As a result he proposes the formula  $C_{28}H_{38}O_6$ . He has made a number of derivatives of elaterin such as diacetyl-elaterin, elateridin, elateroxim, bromide derivatives, elateric, and the products formed by the action of silver oxide. From these he is able to show that the elaterin molecule contains two hydroxyl etherial phenols, an acetyl group, and a ketone radicle. The graphic formula was given.

The President said that anything that would throw light on the great strength of this drug would be a boon to the physician.

Professor H. G. Greenish asked what was the difference between the alkaloid and the glucoside.

M. Herissey replied that this was a chemical paper and not a physiological paper.

Dr. F. von Konek-Norwall (Budapest) was to have read a paper on "Thio-derivatives of homo-antipyrin," but as he was not present the paper was postponed.

An extempore and somewhat lively discussion was then introduced by M. Delatte on the need for an "International Review of Pharmaceutical Chemistry." It was suggested that the work be printed in four languages, but not much enthusiasm was shown for the scheme by anyone but the initiator of the discussion.

#### Saturday Morning Session, May 29.

Professor E. Bourquelot took the chair at this session. The attendance was not at first up to the standard of the previous day, but it improved after a short time. Professor Bourquelot opened the proceedings with a graceful speech,



PROF. EM. BOURQUELOT.

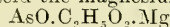
in which he thanked the English Committee for the excellent organisation of the Section. He then called on Dr. W. H. Martindale to read his paper on

#### ORGANIC ARSENIC COMPOUNDS

In this communication the author reviewed the numerous relatively non-toxic organic arsenic compounds which have been tried in therapeutics up to the present time. In addition to these bodies a very large number of allied substances have been produced on an experimental scale from time to time, but these have probably not been subjected to trials from the therapeutic point of view. The author suggested a number of these and gave hints on their modes of preparation, and furnished some results of trials on animals. The author defined the terms arsenic, arsenic, arylarsonic, and arsenoic. He briefly discussed sodium methyl arsonate and the cacodylic bodies. These substances seem to have been discarded in the treatment of disease as they are little attacked in the system, appearing chiefly in the urine in an unaltered condition.

Di-iodomethylarsonic acid,  $CHI_2.AsO(OH)_2$ , and tetra-iodo-cacodylic acid,  $As(CHI_2)_3.OH$ , employing precipitated arsenic in their manufacture, were described, as also tetra-methylarsonium iodide,  $As(CH_3)_4I$ , and acetic arsenous anhydride,  $As(O.CH_3CO)_3$ .

Of ethyl-arsonic acid the magnesium salt—



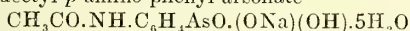
—and *n*-propyl-arsonic acid, the salt of the same base,  $AsO.C_3H_7.O_2.Mg$ , suggest themselves. Iso-amyl-arsonic acid has also been prepared. Some thirty members of the



aliphatic arsenic acids have been made in the past, and innumerable salts of each suggest themselves for trial.

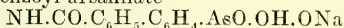
In the aromatic series the potash salt of phenyl-arsenious acid,  $C_6H_5As(OH)_2$ , was first referred to, then followed phenyl-arsonic acid,  $C_6H_5AsO(OH)_2$ , and diphenyl-arsinic acid,  $(C_6H_5)_2AsO.OH$  (phenyl-cacodylic acid). In making this latter body the reaction between magnesium phenyl bromide and arsenious acid in ethereal solution (Grignard solution) was described. Phenyl-cacodyl compounds in general are toxic.

*p*-tolyl-arsonic acid,  $CH_3.C_6H_4.AsO(OH)_2$ , and its oxidation product *p*-benzo-arsonic acid,  $C_6H_5COOH.AsO(OH)_2$ , were referred to. Sodium *p*-amino-phenyl-arsenate,  $NH_2.C_6H_4.AsO.OH.ONa + Aq$ , received special attention both as regards manufacture, analysis, and therapeutics. Evil effects have occasionally been reported from its use. Sodium acetyl-*p*-amino-phenyl-arsenate—

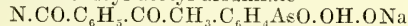


—is the subject of a patent. This salt has been recommended as having advantages over the parent substance.

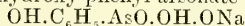
Sodium benzoyl-arsanilate—



—and sodium benzoyl-acetyl-arsanilate—

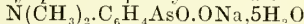


—and sodium-*p*-hydroxy-phenyl-arsenate—



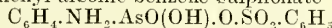
—have been tried by other workers in trypanosomiasis.

Sodium dimethyl-*p*-amino-phenyl-arsenate—

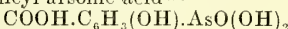


—starting from dimethyl-anilin as against anilin in the case of the arsanilate, seems to have some utility. It can be produced in good crystalline condition.

*p*-amino-phenyl-arsenic-benzene sulphonate—



—suggested to the author by Dr. G. T. Morgan, has been prepared by him. 1-carboxy-6-acetamino-phenyl-3-arsonic acid,  $COOH.C_6H_3(NH_2.CH_3CO).AsO(OH)_2$ , is a body from which salicyl-arsenic acid—



—can be made.

The manufacture of 2-amino-tolyl-5-arsenic acid,  $NH_2.C_7H_7.AsO(OH)_2$ , as indeed of the other homologues of *p*-amino-phenyl-arsenic acid, by heating the arsenate of orthotoluidine, metatoluidine or para-xylylene with an excess of the base in question, has been made the subject of patent-rights.

Amino-naphthyl-arsenic acid,  $NH_2.C_{10}H_6.AsO(OH)_2$ , is prepared on analogous lines. It is not easy to produce in a satisfactory presentable form, being liable to turn pink on exposure. Dicumphoryl-arsenic acid,  $(C_{10}H_{15}O)_2.AsO.OH$ , has been made by Dr. G. T. Morgan recently.

There are various methods of estimating arsenic in organic bodies—one being to fuse with sodium peroxide and weigh ultimately as magnesium pyroarsenate, another to oxidise the body with a concentrated solution of magnesia in nitric acid. The latter method (weighing also in this case as pyroarsenate) gives tolerably good results.

In concluding the paper the author drew attention to the fact that inorganic arsenic is slowly eliminated, while such substances as the arsanilate pass off rapidly, but, nevertheless, in so doing they are not void of unpleasant after-effects. The introduction of sodium arsanilate has been a distinct advance, but one could not view it as the ideal for the purpose. The  $NH_2$  grouping has been stated to be an essential adjunct to arsenic in combating trypanosomes.

The full paper, which can be obtained on writing to the author (10 New Cavendish Street, London, W.), embodied tables of arsenic content of all the bodies, solubilities, and other practical details. Samples of the compounds referred to were handed round the room for inspection.

This was followed by two papers in Italian:

#### PHYSIOLOGICAL ACTION OF *p*-IODO-PHENYL-ARSENIC ACID AND SOME OF ITS DERIVATIVES.

By Professor Mameli and Alto Patta.

With the object of ascertaining whether the bad effects of atoxyl on the optic nerve are due to the  $NH_2$  group, the authors substituted iodine for this group, and from this prepared other derivatives. These were studied as regards their physiological action on animals. Apparently the iodide was found to be more toxic than atoxyl.

#### ASIPHYL.

By Professor Mameli and G. Ciuffo.

The authors aimed to obtain in one salt the therapeutic action of atoxyl and the specific action of mercury; such combination, it was thought, would form an ideal remedy in syphilis. The resulting salt, named asiphyl, is the mercury salt of *p*-amino-phenyl-arsenic acid, and has given good results in clinical practice.

There was no discussion, although an Italian who spoke English offered his services as interpreter.

#### TESTING OF OILS.

M. Léger gave this next paper, entitled "Essai des Huiles Simples Intéressant Spécialement la Pharmacie." The importance of the subject to pharmacists was urged, but the essay of oils is not an easy process. The analytical methods are divided into two classes—physical and chemical. To the former belong the sp. gr., fusion and solidification points, index of refraction, rotatory power, behaviour on warming with sulphuric acid, saponification, and separation of fixed and volatile fatty acids. The chemical methods involve qualitative processes such as the estimation of elaidine, numerical determinations (iodine-value, saponification-figures, Reichert-Meissl figure, Hühner figure, acetyl-figure), and estimation of non-saponifiable part. The oils dealt with in the paper were those of almond, olive, nut, poppy, sesame, and cotton seed, and it was pointed out that an adulterant would always be of lower value than the oil to which it was added. The commercial value of the oils is represented by the order as given above. The characters of the various oils were then dealt with. Poppy oil, a drying oil, is distinguished by its high iodine-value. The presence of sesame oil is detected by Baudouin's reaction. Its sp. gr. is lower than that of olive oil, and in the elaidine test a solid cake is not formed. Olive oil, frequently adulterated, is best identified by its iodine-value, as all oils that are likely to be mixed with it have higher iodine figures. Lewkowitsch fixed this at 90, while the new Codex admits oils attaining 89. Nut oil, which escapes this test, is easily recognised by Blaign's arachidate-of-potash method.

The author did not consider the elaidine test of much importance, as many oils behave similarly, and the results vary according to the exposure of the oils to the sun and air, when less elaidine is obtained. Maumené's thermic test modified by Thomson and Ballantyne furnishes useful indications, as the rise in temperature with olive oil is but slight. For detecting sesame oil Baudouin's test modified by Willanæchier is characteristic and trustworthy. Halphen's reaction shows the presence of cotton-seed oil, but M. Léger cautioned his hearers against concluding that cotton-seed oil is entirely absent if the colouring-matter has been destroyed by heating or treating with chemicals. In the latter case Becchi's reaction modified by Tortelli and Ruggeli is useful. In the presence of cotton-seed oil the iodine-figure and saponification-index are raised. The most important test for almond oil is the solidification-point of the fatty acids, which distinguishes it from olive, sesame, and nut oils. The iodine-figure distinguishes the oil from nut, poppy, cotton, and sesame oils, all of which are higher. The colour-test proposed to distinguish from peach-kernel and apricot-kernel oils are unreliable. The paper concluded with the remark that although the analytical methods for distinguishing between fatty bodies are not perfect, enough is known to make the methods capable of inspiring a wholesome fear in adulterators.

In the discussion which followed, and in which M. Bourquelot and M. Domergue took part, it was pointed out that chlorophyll interferes with the Baudouin test, and that the chief difficulty would be encountered when dealing with a mixture of several oils. M. Léger replied that his paper was not perfect in every detail, but the information he had given was sufficient for the practical pharmacist.

This was followed by Dr. Wilhelm Lenz's paper on

#### A NEW MICRO-CHEMICAL METHOD OF DIFFERENTIATING STARCHES.

A solution of 1 gram of sodium salicylate in 11 grams of water causes a gradual alteration in starch grains. Various starches are differently affected. Examinations are best conducted by the hanging-drop method as used by bac-



teriologists. A little of the specimen to be examined is moistened with water, placed on the cover-glass, and allowed to dry at room temperature. The layer, when dry, must not appear too opaque, indicating too much of the sample. After moistening with the salicylate solution the specimen is examined as a hanging drop in the usual way. The main bulk of the starch remains adherent to the glass; some, however, floats off on to the surface (below). Both the upper and lower surfaces are to be examined.

(a) *Rye Meal*.—The starch grains swell in ten to fifteen minutes, particularly the large grains. After one hour most of the large grains are altered. The small cells apparently are not affected.

(b) *Wheat Meal*.—After one hour only a few large grains have swollen. As in the case of the rye, the hilum in the swollen grains has disappeared. The small grains are unaltered. The margin of the grain remains intact and well defined. This is particularly noticeable when the reflected light is removed by twisting the mirror of the microscope a little. The shape of most of the grains remains from twenty-four to forty-eight hours. The differences between this and rye are well marked in the case of unaltered sound starch, but starch which has not been well stored (allowed to get moist) will swell, whether rye or wheat.

(c) *Arrowroot*.—After one to twenty-four hours only a few grains swollen. After a week most of the grains detached from the glass.

(d) *Barley*.—Swells only partially. In the unswollen grains the hilum still visible.

(e) *Oats*.—Unaltered after a day.

(f) *Millet Grain*.—About 25 per cent. swollen in an hour, likewise after twenty-four hours.

(g) *Rice*.—Slightly swollen in an hour; more in twenty-four.

(h) *Maize*.—Only a few grains swollen in one or twenty-four hours. Hilum persists. The clearness of the hilum is of importance with this starch.

(i) *Potato*.—After one to twenty-four hours only a few grains swollen, and these have lost their very clear hilum.

(k) *Beans*.—In one to twenty-four hours only a small portion swollen.

(l) *Peas* and (m) *Lentils*.—Less.

It is best to employ a magnification corresponding to that obtained with Seibert's objective III. (8.5 mm.) and eyepiece III. (17 mm.)—i.e., about  $\times 200$ . Rye starch as a general rule is larger than wheat starch. According to Vogl when it is 30 to 36  $\mu$  and rye 36 to 47  $\mu$ .

As a general rule the swelling and solution in the case of the extraordinarily large grains is rapid. The rye grains remaining after one hour or more were—omitting the small starch and transitional forms—decidedly larger than in the case of wheat under same conditions. Typical unattacked grains in case of wheat were apparently 23.4 to 31.2  $\mu$  and those of rye were 27.3 to 39.2  $\mu$  in diameter.

M. Herissey next read two papers as follows:

#### NEW MICRO-CHEMICAL METHOD FOR DETECTING ARSENIC AND PHOSPHORUS IN FORENSIC MEDICINE.

M. Georges Denigès, in this paper, stated that by using ammoniacal or acetic acid solution of nitrate of silver, mercuric nitrate, and magnesia mixture in a new way he has been able quickly and definitely to show evidence of the presence of arsenic in the cold in the form of rings of the metalloid even in amounts as small as the thousandth part of a milligram. Similar small quantities of phosphorus are obtained in the form of phosphoric acid. Blondlot and Dusart's type of hydrogen apparatus is used.

M. Denigès also communicated a note on the

#### GLYOXAL REACTION WITH OPIUM ALKALOIDS.

He showed that glyoxals in general (notably glyoxal and methyl-glyoxal, of which a simple mode of preparation was indicated) give with opium alkaloids, in the presence of sulphuric acid, strong colorations. These reactions afford a means of readily differentiating between the alkaloids and enable them to be identified for forensic purposes.

An Italian paper was next taken. It was by Dr. Mameli (Pavia), and referred to a new derivative of cubebin—isocubecic ether.

The next paper was on

#### TALLIANINE.

By Dr. S. Seidman.

Tallianine is an ozonized terpene which results from the prolonged action of ozone on a mixture of terpene-con-

taining oils. It is a liquid with the odour of the oils from which it is produced. Dr. Seidman uses for generating ozone a high-tension apparatus of his own design. Tallianine was at first only used in veterinary practice, but recently Dr. J. Gautier and other medical men have tried it on man. Tallianine is non-toxic and can be given daily hypodermically without indications of poisoning. The physiological action was then explained, the substance being claimed to attack invading microbes at once by reason of its antiseptic and antitoxic action.

M. Valeur and M. Herissey briefly discussed this paper.

Then followed

#### LOCAL ANÆSTHETICS.

M. Valeur then read a paper entitled "Rapport sur les Anesthésiques Locaux," contributed by M. Ernest Fourneau. The first part of the paper was devoted to a consideration of the work of Ladenburg, Merling, Einhorn, Lossen, Liebermann, and Willstätter as to the relationship and transformation of cocaine and its derivatives, it being possible not only to transform cocaine into another base of the same plant, but into a base (atropine) from an entirely different plant. To what molecule of the cocaine alkaloid is the anæsthetic property due? It seems to be necessary that to possess anæsthetic property the  $\text{CO}_2\text{CH}_3$  group, unsaponified, must be present. The author further considered that the benzoylated derivative of an aminalcohol, either piperidinic, aromatic, or aliphatic, would always be found to be anæsthetic. By means of the blackboard M. Valeur showed the constitutional formulæ of ecgonine, cocaine, and tropacocaine, and gave other interesting points about this group. Of other local anæsthetics the only one which is connected with cocaine is eucaine  $\alpha$ . Eucaine  $\beta$ , stovaine, and alypine belong to the aminoalcohols, like tropacocaine. Another group comprises the orthoforms, ethers of aminobenzoic or oxyaminobenzoic acids, including orthoform, new orthoform, anæsthésine, subcutine, nirvanine, propesine, and dipropesine. Novocain is placed between the last two groups, as it is a derivative of both an aminoalcohol and aminobenzoic acid. A further series includes holocaine and acocin, having phenetidine as a fulcrum. Then there are the phenols, guaiacol, iso-eugenol, amino-eugenol, etc., and lastly the natural alkaloids possessing anæsthetic properties but of unknown composition, such as yohimbine, brucine, ibogaine, quebrachine, and an isomeric of quebrachine which M. Fourneau has discovered in corynanthe-bark. The author then reviewed the various substances just mentioned. Poulenc's stovaine is the hydrochloride of dimethylaminodimethyl-ethyl-benzoylcarbinol. Alypin, discovered by Hofmann, is the hydrochloride of tetramethyldiaminobenzoyldimethyl-ethyl-carbinol. Orthoform is *p*-amino-*m*-oxybenzoate of methyl, new orthoform (a cheaper salt) is *m*-amino-*p*-oxybenzoate of methyl. Nirvanine is the hydrochloride of diethyl-glycocol-*p*-amino-*o*-oxybenzoate of methyl. Anæsthésine, discovered by Ritser, is the ethylic ether of *p*-amino benzoic acid; its phenol sulphate is subcutine. Propesine is the corresponding propylic ether to that of anæsthésine, and dipropesine is the carbonate of propesine. Novocain is the aminobenzoic ether of diethyl-amino-ethanol. Holocaine is the hydrochloride of *p*-diethoxyethenyl-diphenylamine, and acocin is di-*p*-anisylmonophenetylguanidine.

A discussion followed in which several of the French members took part, and the versatility of M. Léger was well shown when he demonstrated on the blackboard the constitutional formula of a salt which, although a perfect anæsthetic, unfortunately produces abscesses where it is introduced subcutaneously.

The last paper was

#### GUAIADOL.

By Professor Mameli and G. Pinna.

The authors have prepared *p*-iodo-guaiacol (melting-point, 43° C.), to which they have given the name guaiadol. It is, they claim, the first chemical combination that has been prepared from iodine and guaiacol. Guaiadol can be used in therapeutics in cases where iodine and guaiacol are indicated. The substance has been employed with some success in scrofula, tuberculosis of the bone, lupus, and skin-diseases.



### Monday Morning Session, May 31.

The President for the morning was Professor Dr. H. Thoms (Berlin). He opened the proceedings by thanking the Section for the honour they had accorded him in electing him President. He hoped that the results of the day's



PROF. H. THOMS, PH.D.

discussions would be fruitful, especially as the papers under consideration were of international importance and interest. He then called upon Mr. Peter Wyatt Squire to read a paper by himself and Mr. Charles M. Caines on

#### THE STANDARDISATION OF POTENT DRUGS, AND INTERNATIONAL AGREEMENT WITH REGARD TO IT.

The object of this paper was to show the position which chemical standardisation occupies in the various Pharmacopœias, and the extent to which it has been dealt with by the recommendations of the Brussels Conference (1902). The authors sketched the rise of standardisation since the British Pharmacopœia (1864), and they are of opinion that some universally acceptable chemical standard for preparations of a potent nature is highly desirable, and said that the International Agreement, signed at Brussels on November 29, 1906, was the first move in the matter possessing any practical interest. They also recalled the fact that the suggestion for an agreement on uniformity of strength for pharmacopœial formulæ of galenical preparations in general use was introduced at the annual meeting of the German Apothecaries' Association held at Wiesbaden in September 1864. They recalled the work done in this matter by the International Pharmaceutical Congress, and the part which the late Peter Squire played in the equalisation of the strengths of official pharmaceutical preparations (1) in the United Kingdom and (2) before the Congress of 1881. After a sketch of what was done on the subject at subsequent Congresses, and the last effort (1885) to reduce the idea of an International Pharmacopœia to a working basis, Messrs. Squire and Caines referred to the Conference which assembled at Brussels in September 1902, and which drew up the International Agreement respecting the unification of the pharmacopœial formulæ for potent drugs, which was signed by the various delegates on November 29, 1906. They added that they had occasion during the preparation of "Squire's Companion" to compare the strength of each preparation in the British Pharmacopœia with its equivalent in the Pharmacopœias of seventeen other countries and with the recommendations of the Brussels (1902) Convention. The points of agreement or difference were demonstrated in the form of tabular arrangements, which showed how far the recommendations have been adopted by subsequently published Pharmacopœias. Another table was reproduced from "Squire's Companion" to show the chief chemical standards in the B.P., U.S.P., French, and German Pharmacopœias. The authors thus dealt in succession with tinctures of iodine, lobelia, nux vomica, opium, and cantharides, extract of ergot, mercurial ointments, fluid extract of ipecacuanha, and fluid extract of hyoscyamus, also commenting upon other differences which are observed in preparations of first-class importance. They proceeded to comment on the standardisation of nux vomica preparations, and in this connection said:

In view of the adoption of a total alkaloids standard by all recently published Pharmacopœias, it is highly desirable that there should be some adequate means of comparing the strengths of the British and American preparations of this drug with those of other Pharmacopœias. The process of the U.S.P. as modified by the addition and correction list (1907) is accurate and easily worked, and if the total weight of the alkaloids was determined and noted previous to their separation, that figure would afford the necessary means of

comparison. The Japanese Pharmacopœia standard of total alkaloids is slightly higher than that of the others.

Reference was next made to belladonna preparations, tincture of cantharides, and preparations of colchicum, digitalis, ergot, mercury (ointment), henbane, ipecacuanha, iodine (tincture), opium, strophanthus, aconite, cocaine hydrochloride, syrup of iodide of iron, nux vomica, and sodium arsenate, upon which there is need for international agreement, and, in calling attention to the table which summarised the British, German, French, and American standards for aconite, belladonna, cantharides, cinchona, coca, colchicum, conium, pomegranate, guarana, hydrastis, henbane, ipecacuanha, jalap, kola, nux vomica, opium, physostigma, pilocarpus, scopola, and stramonium, they said the table

illustrates on the one hand how little real progress has been made in the subject of international standards for drugs containing well-defined alkaloidal or glucosidal principles, notwithstanding the great strides which have been made in this department of chemical research; it also shows that as regards chemical standardisation the Pharmacopœia of the United States is far in advance of most of the other Pharmacopœias. The nearest approach to it is the Swiss Pharmacopœia, both as regards the number of the standardised articles and the extent of the standardisation. The paucity of chemical standardisation in the recommendations of the Brussels Conference may be accounted for by the fact that it had been adopted only to a very limited extent in many of the Pharmacopœias represented at the Conference. If we consider the number of International Congresses which have been held, and which have produced no practical result, it must be considered a great achievement that the Brussels Conference got as far as they did towards uniformity in the strength of potent medicines, and gives hope for greater things in the future.

The President thanked Messrs. Squire and Caines for their excellent paper, which should be fruitful in results.

Mr. F. H. Lescher recalled the work done on the three pharmacopœias by his old friend the late Peter Squire (father of Mr. P. W. Squire).

Professor H. G. Greenish said the paper was a step in the right direction. In his experience a small committee would be preferable to a large committee. When the Unification Conference meets again he was quite sure that great strides would have been taken in the matter of international standardisation.

Mr. P. W. Squire agreed with Professor Greenish's remarks. He knew there were difficulties in the way of international agreement. In the case of the London, Edinburgh, and Dublin Pharmacopœias there was very much trouble in coming to an understanding, and this would be intensified when one is dealing with all the nations of the world.

The President said he understood Professor Greenish to suggest that they should wait till the next Congress on the Unification of Potent Drugs in order that current opinions might be collected. He assumed that Mr. Squire and Mr. Caines were also in accord with that suggestion. He heartily thanked the authors for their paper.

#### ANOTHER COMMUNICATION.

The Acting President then called upon Mr. Peter MacEwan to read a communication by Mr. Geo. P. Forrester (Darmstadt) and himself on "Variations in the Activity of Certain Toxic Drugs, with Suggestions for an International Inquiry." In this the authors referred to the diverse opinion on the valuation of certain drugs of European origin, especially aconite, belladonna, digitalis, and henbane, which illustrate pharmacologically distinct classes, and the aim of their communication was to show that there is need for inquiry in respect to them. Since the last Congress in Rome the European Powers (except Portugal) and the United States have agreed, with all the formalities pertinent to an international treaty, to the unification of pharmacopœial formulæ for potent drugs, as a result of the Conference held in Brussels in September 1902. The agreement as to the selected drugs was summarised, and the authors gave a series of tables contrasting pharmacopœial requirements for these drugs. As a preliminary to this communication they corresponded with forty or more recognised authorities in Europe and America, with a view to obtaining definite suggestions as to co-operation in observation and research. They suggested three lines of work, viz.:

1. Studying and recording the climatic, soil, and other conditions of the localities where the drugs are grown and harvested for commercial purposes.



2. Periodical chemical analysis of the parts of the plants used medicinally, with the view to ascertaining if they are harvested at the proper time.

3. Agreement upon chemical or other methods which should be employed to judge the medicinal value of the drugs.

Abstracts of letters received in reply were given in an appendix. They comprised analytical data or letters from the following:

Messrs. Stafford Allen & Sons, Ltd.; Evans Sons Lescher & Webb, Ltd.; W. Ransom & Son; and Southall Bros. & Barclay, Ltd.; Professor J. Möller (Vienna), Professor R. Kobert (Rostock), Professor Dr. Arpad V. Bokay (Budapest), Dr. Karl Dieterich (Helfenberg), Professor Hans Horst Meyer (Vienna), Messrs. Cæsar & Loretz (Halle a/S.), Kaisl. Rat. A. Kremel (Vienna), Professor H. Thoms (Berlin), Dr. J. Chevalier (Paris), Mag. Ph. W. K. Ferrein (Moscow), Professor H. Beckurts (Brunswick), Messrs. G. & R. Fritz-Pezoldt & Süß (Vienna), Professor A. Tschirch (Berne), Professor E. Schmidt (Marburg), Professor E. Perrot (Paris), Dr. H. Weppen (Blankenburg a/Harz), Dr. Rodney H. True (Washington, D.C., U.S.A.), and Professor J. Domac (Agram, Tyrol).

Different climatic conditions produce variations in the constituents of plants, and these vary according to the stage of growth they have reached. Isolated work has been done and recorded, which can be co-ordinated for the purpose of giving lines of future research. Periodical chemical analysis will necessarily involve preliminary agreement as to the methods to be employed. Differences in pharmacopœial methods involve differences in principle and practice. Consideration also suggests that analyses should be extended to include those factors other than alkaloids in the assay of drugs which Professor Thoms found to be of so much interest. It is agreed that the existing chemical-assay processes differ when the same specimens of drugs are used, but at this stage no attempt is made to compare them, the authors' object being to find out how the products of Nature may be taken at their best, and how to control Man in passing these products on to Medicine. They proceeded to give particulars regarding the cultivation or growth and collection of aconite leaves and root, belladonna leaves and root, digitalis-leaves, and henbane. Commercially aconite has been obtained containing, or stated to contain, from 0.06 to 1.78 per cent. of alkaloids; and belladonna, from 0.14 to 1.32 per cent. of total alkaloids. Digitalis was also considered, the authors questioning, however, if it can profitably come within the scope of international inquiry, and they showed in what respect henbane varies. They called attention to points deduced from the series of pharmacopœial tables, which are:

**Aconite-root.**—England specifically demands the root of plants grown in Great Britain, whereas Russia expressly forbids the use of roots of cultivated plants. Three require it to be taken from the wild plant; and the time of collection (stated in nine cases) ranges from while the plant is in flower, towards, and at the end of the flowering season; while the Pharmacopœias of the two Anglo-Saxon countries state that it should be collected in the autumn. The alkaloidal content required by five countries is 0.5 and 0.8 per cent.

**Belladonna.**—Here we must distinguish between the leaf and the root; the former is official in all Pharmacopœias, the latter in seven only. We also note the same divergences with regard to the drug, wild plants being specially indicated as its source only in two cases (Germany and Switzerland). Russia permits the use of cultivated as well as wild-grown leaves, whereas Holland requires distinctly that these should be obtained from plants grown in "our country." The time of collection, too, varies from the season when the plant is ready to flower until the moment when the fruit begins to mature. Some Pharmacopœias specially require the drug to be renewed yearly, and the alkaloidal content of the leaves is fixed at 0.3, 0.35, and 0.6 per cent. by the three which require an assay; curiously enough, the alkaloidal percentage of the root demanded by the same Pharmacopœias also moves within the same proportions; 0.4, 0.45, and 0.7 per cent.

**Digitalis-leaves.**—Here, too, a certain amount of variation may be noted, although to a slighter extent than is the case with the two above-mentioned drugs. The leaves from the second year's growth are required in ten instances, while five demand wild-growing plants; and the Netherlands here, too, requires an indigenous drug. Of the ten Pharmacopœias which define the time of collection of the drug, seven state at "the commencement of flowering," the other three men-

tion "when in flower." Eleven require the drug to be renewed yearly, while three prescribe a test to demonstrate the presence of active principles.

**Hyoscyamus-leaves.**—The same variations as regards the specification of the plant and time of collection as enumerated before again apply. Only two Pharmacopœias, however, prescribe an alkaloidal assay—U.S. 0.03 per cent. and Switzerland 0.1 per cent.

The galenical preparations of the drugs were also compared and commented upon, and the authors concluded as follows:

We venture to suggest that the facts which we have submitted establish a case for international inquiry. The first step in the matter might be the appointment by this section of a committee representative of the principal countries, especially those from which the drugs are obtained, to collect the facts already available. A central bureau might be nominated or selected for the purpose of co-ordinating the facts and to serve as an exchange for all correspondence among the members, especially to facilitate intercourse in the different languages. When all the views have been collected and prepared, the committee should consider them, publish if thought desirable with the view to getting further advice on the proposed methods, and when that question is finally settled the real research work should begin.

The President thanked the authors for their excellent paper. All present were able to appreciate the great difficulties of the subject. He was strongly in favour of the appointment of a committee to report on the matter.

Professor E. Bourquelot said the subject was a very difficult one. At the Brussels Conference no conclusions could be arrived at on some matters owing to the impossibility of agreeing on the strengths to be adopted. Much work needs to be done on the influence of soil on the alkaloidal content of such drugs as belladonna, samples vary much according to whether the soil is calcareous, etc.

Mr. P. W. Squire said that was an appropriate place to read such a paper. Some years ago he conducted experiments in the cultivation of aconite so as to find out the period of greatest activity. The method was to examine the cut root from time to time by taste. He found the crown of the root to be the most active at the time when it was opening for the growth of the stem. This illustrates one point only upon which information could be collected in regard to many other drugs. The question of soil would also need to be considered. If, however, the drugs were to be gathered by botanical experts that would mean enhanced expense. One ought not perhaps to mention expense in such matters, but it reminded him that some years ago his sister, who had suitable land, devoted a portion to growing aconite. *Aconitum Napellus* was grown, but when it was offered at 1s. 6d. per lb., which was about what it cost to grow, there were no purchasers, as an aconite-root could be obtained at about 4d. per lb. The commercial element even enters into drug-growing. (Laughter.)

M. F. Ferrein (Moscow) said that the experiments carried on by the firm of W. K. Ferrein, of Moscow, were referred to in the paper. He had much pleasure in promising the hearty co-operation of his uncle in the work of the committee. (Hear, hear.)

Mr. F. Ransom spoke of the great value of the paper, but added that commercialism must enter into such a subject. It is quite impossible to judge of the quality of belladonna-root by the appearance, although the starchy appearance is thought to be a guide. It is, however, no real indication as to the amount of alkaloid. In regard to digitalis-root it is not proved that the second year's growth is better than the first year's. The leaves are gathered from wild plants, and it is quite impossible to separate the different growths. Perhaps the leaves gathered in the early part of the season may be mostly second year's, but later on there are as many first year's leaves. It is a question whether a guarantee could be given with digitalis at the price at which it is sold. If they could be guaranteed digitalis-leaves would be one of the most suitable forms of this drug that could be used.

Mr. F. H. Carr said that drugs vary according to the climate and soil. The proposed commission would greatly help all countries in the matter of drug collecting. It must, however, be remembered that the seasons vary and the times of collection are consequently different. The alkaloid in scopolia varies from the minimum in June to the maximum, ten times as much, in the autumn. It would perhaps be desirable to fix a range of activity in a drug; belladonna, for instance, varies from 0.3 to 0.6 per cent. of alkaloids. Well-grown first year's henbane might prove as good as biennial henbane, and this would keep the price from advancing as it does in years which are unfavourable to the latter.

Dr. E. M. Houghton (Detroit) said it is not possible to standardise digitalis chemically, and hence the necessity for physiological standardisation. He had investigated the activity of first and second year's digitalis-leaves and found



very little difference in the activity. *Cannabis indica* grown in India, Mexico, and three different sections of the United States had been examined, and a remarkable uniformity disclosed in the activity of the drug.

Dr. H. A. D. Jowett asked whether the time had not arrived when it was necessary to decide upon the standard in active principle and leave the choice of the drug to the manufacturer. The appearance of a drug goes for nothing. The only proper way to ensure good results in a preparation is to indicate the strength in alkaloid or other active principle. The question is largely a commercial one, and if a certain standard were required in a drug the manufacturers would only buy a drug answering to the standard. There are great differences in the activity of henbane and belladonna preparations, and in his opinion the time must come when the pharmacologist would prescribe only the alkaloid. In the case of belladonna only the total alkaloids are determined, and it is now understood that the activity depends on the chemical composition and the stereo-isomeric configuration. At present the alkaloids cannot be separated, so much more the stereo-isomeric forms.

Dr. C. R. Hennings said the principles of digitalis cannot be separated, and hence the necessity for physiological standardisation. The leaves of the first year are considered to be more active than those of the second year. The committee would be very important both to the physician and the chemist. He suggested that the members should consist of half physicians and half chemists. Pharmacological tests are as important as chemical tests. He recalled the fact that Thom's experiments on opium-growing at Dahlem were a failure commercially, though not scientifically.

Mr. D. Hooper suggested that a permanent committee should be appointed to consider the matter dealt with in the paper.

Dr. W. H. Martindale, referring to the water-soluble glucosides of digitalis, said others may have noticed that in the new edition of Merck's "Index" the dose of digitalinum purum pulvum germanicum has been enormously increased. He also recalled that Dr. Waller has shown recently that the digitalis glucosides are similar in action to the saponines.

Professor H. G. Greenish said the question of the appointment of a committee is one of supreme importance. He would like to have some information as to the present position in regard to the Brussels Conference which is investigating these questions.

Mr. N. H. Martin then proposed the following resolution, which was seconded by Professor Bourquelot:

That this meeting of the Pharmaceutical Chemistry Section of the International Congress of Applied Chemistry, having received and discussed communications by Messrs. Squire and Caines and MacEwan and Forrester, resolves that it is desirable that an international inquiry should be instituted with a view to securing: (1) Greater uniformity in the commercial supplies of potent drugs and the means for determining the same, and (2) approximation in the Pharmacopœias of the world to common standards of activity.

With a view to advancing these objects this meeting further recommends that the following Provisional Committee be appointed to inquire and report on the subject to the next meeting of the Congress:

Messrs. P. W. Squire and F. Ransom (Great Britain).

Professors H. Thoms and E. Schmidt (Germany).

Professor E. Bourquelot and M. Leger (France).

Professors Piutti and Guareschi (Italy).

Professors Remington and Rusby (United States).

with Peter MacEwan (Great Britain and U.S.A.) and G. P. Forrester (European Continent) as secretaries.

This meeting recommends that the Provisional Committee shall have power to invite as members with equal rights persons who have interested themselves in this subject, and further that this resolution shall be conveyed to the Governments and Pharmacopœial authorities who were represented at the Brussels Conference (1902) on the unification of potent remedies.

The President, in speaking in support of the resolution, said he agreed with Professor Bourquelot as to the difficulties in the way of agreement. He suggested that but very few questions should be brought forward for consideration by the committee. He referred to the possible physiological standardisation of digitalis for the new *Arzneibuch*. Medical men say the only way of standardising digitalis is the physiological method. Digitalis-leaves grown in the Schwarzwald, Thuringen, and the Harz are all very different. Referring to Dr. Hennings's remarks on his (the speaker's) opium-culture experiment, Professor Thoms stated that he had a large book ready which dealt with the results of his experiments and the composition of the earth in which the opium poppy is cultivated. "Die Pflanze ist ein besserer Chemiker als wir" (The plant is a better chemist than we are) said the speaker, "and has better laboratories than we have. We must study conditions of growth. We should cer-

tainly appoint a committee to inquire, to find out, how to compel the plant to produce a definite quantity of alkaloid." He suggested that the resolution should be translated into German, French, and Italian, adding that he sincerely hoped that the results would be placed before the next Congress.

Mr. MacEwan replied, and Professor Greenish also supported the resolution.

The President then explained the resolution in German.

Dr. Max Leuchter (Berlin) inquired whether physiologists and medical men would be represented.

The President said that would not be advisable at present. As the work advanced it might be desirable to increase the scope of the committee's work.

Professor Bourquelot then explained the resolution in French, and an Italian delegate did the same in Italian.

The resolution was then put to the meeting and carried unanimously.

Dr. P. M. Mardetschlager then read a paper with the title "Ueber die Wichtigkeit einer einheitlichen Untersuchungsmethode in chem. Beziehung aller Medikamente, Drogen U.S.W., aller Pharmacopœien der Erde zur Identitätsnachweisung durch eine Commission aller Staaten." ["On the importance of a uniform method of examination of all medicaments, drugs, etc., for the Pharmacopœias of the world and the necessity of a commission from all countries to investigate the subject."]

The chief point urged was the appointment of an international commission to look into the matter.

Professor Stanislaus Preschbyteck (St. Petersburg) said there were difficulties in the way; in fact, in his opinion, the scheme was impracticable.

The President pointed out that possibly three years hence the new synthetic drugs may be "on the shelf"—great changes may have occurred.

Dr. W. Lenz also spoke of the difficulties, and suggested that Dr. Mardetschlager's resolution be added to that following the paper by Messrs. MacEwan and Forrester.

The President pointed out the confusion that would result from such a course, and ultimately the consideration of the subject was postponed.

Dr. E. M. Houghton, Ph.C., submitted proposed international standards for the

#### PHYSIOLOGICAL ASSAY OF THE HEART-TONICS

of the digitalis series. In the course of this he said that methods of chemical-assay have proved insufficient for the valuation of the physiological action of the heart-tonics. Experiments upon animals have demonstrated conclusively that preparations of the heart-tonics vary greatly. As the heart-tonics of the digitalis series form one of the most important classes of medicinal substances used in therapeutics in all civilised nations, it is extremely desirable that uniform standards be adopted. Such standard or standards should be based upon the physiological action of the crude drug or its equivalent fluid preparation. The author suggested that an international committee be appointed, the work of the committee to consist in testing out and determining the most desirable and satisfactory method of assaying the strength of these products. The author offered for consideration a method which he has employed for fourteen years, based upon the determination of the minimum fatal dose per gram body-weight of each of the several heart-tonics when injected into the abdominal lymph-sac of standard test-frogs. Precautions must be taken to keep the conditions uniform. The minimum fatal dose of the unknown preparation should be compared with the minimum fatal dose of the standard when administered to frogs under like conditions. It is reasonable to conclude from the experimental data available that it will be possible to establish a heart-tonic unit for the several heart-tonics of the digitalis series. A long scroll of tables was affixed to the wall showing the methods adopted in the laboratories of Messrs. Parke, Davis & Co., Detroit. The letters M.F.D. were used to indicate minimum fatal dose, and H.T.U. heart-tonic unit.

The President suggested that as the next paper, by Dr. G. Morselli, dealt with a similar subject, it should be read before the discussion proceeded.

Dr. Morselli's paper was entitled "Della necessità di introdurre nelle farmacopoe ufficiali il concetto di tollerazioni fisiologica per talune droghe e preparati medicinali."

Mr. N. H. Martin said Dr. Houghton was not handicapped by a Vivisection Act as are the workers in this country. A good deal depends on the frogs used, but he did not quite understand what Dr. Houghton means by the "temperament"



of a frog. Had the author found male frogs more reliable than female frogs? In this country the time taken to kill a frog is considered the chief factor. He had found that strophanthus retains its strength for a long time. He also referred to a method of measuring the activity of adrenalin preparations by their antagonism to nitroglycerin.

Dr. Lenz also spoke, and he was followed by

Mr. T. Maben, who mentioned that it had been suggested that the paper should have been read in the Pharmacological Section. He held, however, that pharmacists are just as much interested in Dr. Houghton's subject as the pharmacologists. Could the investigation be added to the duties of the committee which had already been appointed earlier in the session? The standard in Germany depends on the death of the frog in a certain time.

Mr. E. T. Brewis said it has been found by experiment that the first-year's digitalis-leaf has a smaller lethal dose than the second-year's leaf. On storing, digitalis has been known to lose as much as 30 per cent. of its potency. If the drug is carefully collected and stored in an anhydrous condition there is no loss in potency. Cultivated digitalis is stronger than the wild, and the first-year's leaf than the second-year's leaf. The drug needs very careful storage.

Dr. Houghton, in reply, said that in selecting frogs he had in view the characteristics which are chosen in dogs. Male frogs are generally used, and the animals are kept for a few days under uniform conditions at a uniform temperature before being used. In regard to the end result, time is one element, lethal dose another. In 1894-7 experiments were in progress which finally led to the selection of the M.F.D. per gram weight of frog as giving the most suitable results. It is, he added, easier to make a physiological assay of digitalis or strophanthus than of anti-diphtheritic serum.

The President thanked Dr. Houghton, and said that Dr. Morselli had agreed that the subject should be discussed by the committee appointed earlier in the sitting.

The next paper was:

#### ON THE STANDARDS FOR PURITY OF QUININE COMPOUNDS.

Mr. D. Lloyd Howard read this paper by himself and Messrs. Bernard T. Howard and O. Chick, embracing a comparison of some official tests of quinine sulphate. The authors pointed out that while the B.P. test is based on the gravimetric method of Dr. Paul, the other official tests used are based on the volumetric method of Professor Kerner; these tests are those of the P.G. IV., P.G. II., B.P. Codex (1907), U.S.P. (1905) as subsequently modified, Codex Fr. (1884), and Codex Fr. (1908). Each of these methods was tried by two investigators working independently on each of five samples of quinine sulphate of different qualities, ranging from a sample passing the P.G. IV. (and consequently all the other tests) and containing no cinchonidine, to a sample just passing the P.G. II. (and none of the more severe tests) and containing 6.8 per cent. cinchonidine (alkaloid). A table of results was included which showed the very remarkable influence of the "personal equation," for while each investigator adhered strictly to the directions officially given, and obtained results generally in accordance with each other, these results often differed widely from those of the other investigator. All these tests are empirical and do not afford a means of estimating accurately the amount of alkaloids other than quinine present. The method of Paul indicates only cinchonidine and cinchonine. The method of Kerner indicates other alkaloids—notably the little-known hydroquinone—and it would be well to determine the relative importance of these various impurities, and also whether the advantage to the consumer of a very high standard such as the P.G. IV. repays the largely increased cost. The authors laid special stress on the necessity in this country of an official test which does not require exceptional manipulative skill, and also of directions for carrying out the test so full and explicit as to enable investigators to obtain similar results and eliminate as far as possible the influence of the "personal equation."

The President said it was a splendid paper.

Dr. L. Edgar von Cramm (St. Petersburg) said that although he had left the ranks of pharmacy he knew that such things as caffeine salts bought in Germany varied to the extent of 30 per cent. This was well worth the attention of an international inquiry. He suggested co-operation with the XI. Section of the Conference.

The President said there is, unfortunately, no prospect of an international Pharmacopœia. Potent drugs must have first consideration, and he asked Dr. Cramm to allow his point to stand over for a while.

Mr. F. H. Lees asked if the authors had encountered a

quinine sulphate which would pass the tests of the Pharmacopœia Germanica IV.

Mr. David Howard said, considering that some 350,000 kilos. of quinine are taken annually, the purity is a question of some importance to our fellow-creatures, since it takes a great many of them to swallow that quantity. Excessive standards are dangerous and not observed, but solely a source of vexation. The old Codex test he considered the best, as it was accurate and only allowed a small quantity of other alkaloids. The Ph.G. III. is the severest practical test, but in the new Codex test insufficient time for cooling and shaking is allowed. The infinite variety of amounts of alkaloids in some species of cinchona, and even the same tree, teaches a lesson as to the effect of soil and climate during the growth of plants. The "Ledger" bark in the East all came from the same packet of seeds, and when the standards were made for the official cinchona in the British Pharmacopœia it was difficult to get samples to pass it. Now, owing to the effects of cultivation, it is difficult to find a sample below the limit.

The President thanked Mr. Howard for his speech, and, referring to one of his remarks, said "the words have been golden which the 'old man' has spoken—but he is *not* an 'old man' in knowledge."

Dr. F. B. Power wished to know if the German manufacturers are prepared to meet the requirement of the current German Pharmacopœia.

Mr. D. L. Howard, in reply, said he had not examined a German sample from the point of view of the new requirements in Germany. The purified sample which passed all the tests could be produced on a commercial scale. It is merely a matter of expense. This sample illustrated the factor of the personal equation in strongest tests. One worker got it to dissolve in 3.0 c.c. of ammonia solution, while the other required 3.9 and 3.6 c.c. in two assays. Both of the workers were by no means novices at the work.

#### Monday Afternoon Session.

Professor P. M. Mardetschlager was voted to the chair at this sitting, and he conducted the business in an expeditious manner.

Mr. Seidell then read on behalf of Mr. Worth Hale a paper on

#### THE TOXICITY OF ACETANILIDE MIXTURES.

A series of experiments was undertaken at the Hygienic Laboratory of the United States Department of Public Health to determine to what extent the toxicity of acetanilide is affected by administering it in combination with certain other drugs, particularly caffeine. In experiments upon both warm and cold blooded animals caffeine was found to exert a fairly marked antagonistic effect so far as the heart-rate is concerned, but it had only a very slight action upon the lessened contractile power of the heart-muscle. The antagonism is so very imperfect that it is probably of very little value in relieving the heart-distress of acetanilide-poisoning, despite the popular belief in its efficacy. When given to the intact animal (mice and guinea-pigs) it markedly increased the toxicity of acetanilide. On the other hand, sodium bicarbonate was found to exert a greater influence than caffeine in counteracting the depressing effect of acetanilide.

Mr. MacEwan said that as pharmacists they were not, perhaps, competent to discuss pharmacological questions. Brandy has a counteracting effect to the depressing action of acetanilide.

Mr. Martin said the paper would be of great help to the dispensing pharmacist.

Mr. Harrison said that a favourite nostrum has been shown to consist of acetanilide, caffeine citrate, and sodium bicarbonate, which mixture the author shows is really the least depressing.

Mr. Harrison then read (in abstract) the following paper:

#### CHEMISTRY OF THE U.S.P. FROM 1820 TO 1909.

Professor Joseph P. Remington, Ph.M., Chairman of the Committee of Revision of the United States Pharmacopœia, stated in his paper that the Pharmacopœias of the various civilised countries show from one edition to the next the increasing importance of applied chemistry. A study of the United States Pharmacopœia, from the first edition in 1820 to the last in 1909, shows the changes and records the developments in pharmaceutical chemistry during this period. A series of tables showed admissions and rejections from one decade to the next, and the influence particularly of organic chemistry in the last twenty years, seen in the introduction of synthetic chemical



substances. The great improvement in methods of manufacturing and the introduction of more accurate chemical tests for identity and purity denote great progress in applied chemistry and the greater perfection of methods of manufacture. If the chemical substances used in 1820 and 1830 were to be offered for sale in the United States in the year 1909, they would be rejected without question as not sufficiently pure for medicinal use. The agitation which is now taking place throughout the world for still greater purity is, the author said, one of the signs of educational advancement and a demand for greater exactness in manufacturing processes.

Mr. David Howard hoped the full paper would be printed, as Professor Remington's name is a guarantee that it will be worth reading. The chemical section of the U.S.P. is a model for other countries.

Mr. Martin regretted that Professor Remington was prevented from being present.

The next paper was entitled

#### PROGRESS IN STANDARDISATION OF PHARMACOPEIAL DRUGS.

Dr. A. B. Lyons, in this communication, showed how fifteen years ago three drugs were required by leading Pharmacopœias to be of a stated standard strength, and to-day twenty more have been added. He reviewed the methods of assay, and said it is reasonable to require that the limit of possible error shall not be greater than perhaps 10 per cent. above or below the ideal standard, and made the following remarks on existing methods:

**OPIMUM-ASSAY.**—The Pharmacopœias are still divided between the lime process, which yields morphine in a reasonably pure form, and the direct precipitation of the concentrated aqueous solution with ammonia, the latter process in its latest form nearly or quite as short as the former, and yielding somewhat higher results. He suggested titration of the crude morphine by dissolving first in volumetric potassium hydrate or calcium hydrate, and determining total alkalinity of an aliquot part of the clear solution after impurities have subsided.

**CINCHONA-ASSAY.**—The U.S.P. directions for determining the ether-soluble alkaloids should be amended. Shaking with ether should be continued during ten minutes, at 20° C. (or lower), or not less than thirty minutes should be allowed for separation of the comparatively insoluble alkaloids, the temperature not being allowed to rise above 20°. The plan of the new Swiss Pharmacopœia for the preliminary extraction of alkaloids—treatment with hydrochloric acid before adding alkali—is very advantageous, and probably equally applicable in many other assays. The use of *aliquot parts* when volatile solvents are concerned can often be avoided without rendering the assay-process much longer or more laborious.

**NUX VOMICA.**—Only the British and the U.S. Pharmacopœias adopt a strychnine standard for this drug, and the author criticised these briefly.

**ACONITE.**—Titration results are liable to be misleading since the titration equivalent of aconitine is very high. There should be proof that the alkaloid present is really aconitine. The result of assay should be checked by the Squibb test. The French Codex gravimetric method, by precipitating the solution with silico-tungstic acid, igniting the precipitate, and weighing, may admit of wider application.

**BELLADONNA AND ALLIED DRUGS.**—The presence in these mydriatic drugs of several alkaloids differing materially in medicinal effects makes results of assays of comparative rather than absolute value. Assays of hyoscyamus, for example, are not to be compared with those of belladonna. This is obvious enough, since one of these drugs certainly cannot be substituted for the other in doses proportioned to the quantity of alkaloid. Neither would it be admissible to fortify a preparation of *Hyoscyamus niger* with *H. muticus*, which is extraordinarily rich in alkaloid (hyoscyamine).

**COLCHICUM.**—Present assay-processes are unsatisfactory. Lead subacetate may be used advantageously to obtain the alkaloid in a comparatively pure state. Colchicum corm may be assayed by triturating the powdered drug with a solution of lead subacetate, macerating with warm water, then percolating to exhaustion with warm water, adding sodium phosphate or sodium sulphate to precipitate excess of lead, and shaking out the solution with chloroform. Dr. Gunnar Heikel has lately described an improved method of titrating alkaloids with Mayer's reagent, very rapid and reasonably exact. It is particularly useful in determining colchicine, since that alkaloid cannot be titrated alkalimetrically.

**IPECACUANHA.**—Most of the assay-processes determine ether-soluble alkaloid, either gravimetrically or by titration, using an arbitrary factor based on the assumption that the alkaloid consists of emetine and cephaeline in about equal proportions. It is possibly just as well to determine total alkaloid, pre-

ferably perhaps by weight. The indicator is a matter of importance. Hæmatoxylin, which is commonly prescribed, is not at all suitable. Cochineal is much preferable.

Reference was also made to the assaying of coca, hydrastis, and jalap.

Mr. Brewis asked under what conditions should the drug be assayed—should it be dry or contain 10 per cent. of moisture? In regard to taking samples of nuxvomica, digitalis, or belladonna, these must fairly represent the bulk. As a rule pharmacists do not understand the taking of samples so perfectly as it is understood in some other branches of applied chemistry.

Mr. David Howard said no galenical process extracts anything like the entire quantity of alkaloids from cinchona-bark. What is wanted is an assay-process for the finished preparation. The number of people who take powdered cinchona cannot be large enough to call for an assay-process.

Dr. Lenz, referring to Mr. Howard's remarks that no process could extract all the alkaloids from cinchona-bark, suggested that concentrated solution of chloral hydrate as used in microscopic work would be found a useful agent.

Mr. Howard thought this a valuable suggestion.

Mr. Harrison then read the next paper, entitled

#### ORGANIC COMPOUNDS OF THE U.S.P.

Professor Samuel P. Sadtler, Ph.D., gave in this paper a review of the progress that has been made in the use of synthetic and organic compounds, and the advances made in this rapidly growing class of medicines. The rules laid down for the eighth revision of the United States Pharmacopœia practically exclude all but those which are public property. Referring to the advanced state of knowledge as indicated in the U.S.P., he said that the tables in the new edition of Parry's "Essential Oils" show that the U.S.P. is alone in its assay requirements for essential oils.

Mr. Martin thought the lines laid down by the Committee for the Revision of the U.S.P. as regards patent and trademark rights were sound. It is inadvisable to put into a Pharmacopœia articles which are controlled by individuals or firms.

The next paper was on the

#### SOLUBILITIES OF SALICYLATES.

Dr. Atherton Seidell, the author, has been engaged in checking the solubilities of the chemicals mentioned in the United States Pharmacopœia. In this paper he gave the solubility-curves of salicylic acid, and phenyl, ammonium, sodium, lithium, and strontium salicylates in alcohol of various strengths up to 100 per cent. These were determined at 25° C. The curves were given on the blackboard, and below, "for the benefit of pharmacists," the results were set out in tabular form as follows:

#### PARTS OF SOLVENTS REQUIRED FOR ONE PART OF SALT.

—	In Water		In Alcohol	
	Present Results	U.S.P.	Present Results	U.S.P.
Salicylate—				
Ammonium	0.97	0.9	2.33	2.0
Lithium	0.786	v. sol.	1.193	v. sol.
Phenyl	6665	2333	4.65	5.0
Quinine	1538	77	20.65	11.0
Sodium	0.867	0.8	7.33	5.5
Strontium	18.85	18.0	48.51	66.0
Salicylic acid	453	308	2.15	2.0

Mr. MacEwan complimented Dr. Seidell on the paper, and referred to Squire and Caines's work on solubilities. What pharmacists require is to know the amount of solvent needed for a unit of salt. Some salicylates hydrolyse easily, and perhaps a peculiar curve detected in the case of lithium salicylate was caused by hydrolyses.

Dr. Seidell: I do not think that is the reason; but the nature of the change is not known.

Mr. MacEwan added that the salt solution may begin to dissolve alcohol; the changes are at least very suggestive. It would have been better if the temperature had been taken as 15° C. instead of 25° C.

The other paper by this author was:

#### METHODS FOR THE DETERMINATION OF SALICYLATES.

Dr. Seidell, who is employed in checking the physical constants of the U.S.P. in the division of pharmacology



of the Hygienic Laboratory, U.S. Public Health, has made a study of the Messinger and Vortmann iodine method for salicylates (Ber., 1890, 23, 2577) and the bromate method suggested by Freyer and recommended by Fresenius and Grünhut (Z. anal. Chem., 1899, 38, 2577). The former process gives variable results depending upon slight differences in the amount of caustic alkali present and also upon the amount of excess of iodine used. The latter method is also unreliable since variations in the relative proportion of bromate and salicylate present in the titrated solutions produce irregular results. Of the many experiments which were made for the purpose of devising a method for the accurate determination of the salicylic radicle, those based upon the formation of di-brom-salicylic acid gave the most promising results. According to this reaction salicylic acid in very strong hydrochloric acid solution is converted by bromine into di-brom-salicylic acid (m.p. 220°), four atoms of bromine being required per one molecule of salicylic acid. The method may be carried out by mixing the sample of salicylate with concentrated HCl in a glass stoppered bottle and titrating with standard bromate solution until a yellow colour persists for ten minutes, the solution being gradually warmed to about 80° during the titration; or, the sample of salicylate dissolved in a small quantity of water may be added to an excess of a standard hydrochloric acid solution of bromine and the back titration made with stannous chloride. The author confessed that this is not a perfectly satisfactory process, as it proceeds very slowly towards the end, but it can be used until a better method is devised.

Mr. Harrison briefly referred to this paper.

Dr. Ubeda y Correal (Madrid) then read a paper (in French) on "Compressed Tablets." The point in the paper was that the best diluent is probably sodium chloride or ammonium chloride. This he advocated for physiological reasons.

### Tuesday Morning Session, June 1.

For the first part of the sitting Mr. N. H. Martin was in the chair.

The first paper was:

#### ON THE EMPLOYMENT OF EMULSIN IN TESTING FOR GLUCOSIDES IN VEGETABLE PRODUCTS.

By Professor E. Bourquelot.

The glucosides hydrolisable by emulsin are levo-rotary and derivatives of *d*-glucose. By hydrolysis a body is obtained which is dextro-rotary, owing to production of the *d*-glucose, and other substances which are without action on the plane of polarised light. It follows that to test for one of these glucosides in an aqueous solution of vegetable origin all that is necessary is to add in a convenient manner a little emulsin in solution. If under the influence of the enzyme the body splits off and gives a dextro-deviation, the solution in question contains one of these glucosides. The method is simple, but it is necessary to take the precautions outlined in a previous work by the author in 1907. Some vegetable substances retard the action of emulsin, such being tannin and gallic acid. Methods of eliminating these were indicated. By the process mentioned the following glucosides have been discovered: Aucubene (1902), sambucinigrin (1905), prulaurasin (1905), tanricatin (1906), jasmiflorin (1906), bakankosin (1907), verbenalin (1908), oleuropein (1908), and erytaurin (1908). The method is available for many other plants, but it requires much time and patience.

Mr. F. H. Lescher dit c'est un sujet rempli de matières fort intéressantes. Il aurait pu nous tenir bien au courant, mais il s'est souvenu de ce que disait un des dramatises de la France "Glissez, mortels, n'appuyez pas."

Another paper by the same author was then taken.

#### CYANHYDRIC GLUCOSIDES WHICH FURNISH, ON DECOMPOSING, BENZOIC ALDEHYDE OR ACETONE.

By Professor E. Bourquelot.

This was an able review of the subject of cyanhydic glucosides. The list given was as follows: Amygdalin (1830), linamarin (1891), phaseolunatin (1903), amygdonitrile glucoside (by incomplete hydrolysis of amygdalin),

lotusin (1900), dhurrhin or sorghum glucoside (1903), karakin and corynocarpin (1903), legynocardin (1904), isoamygdalin (1904), sambucinigrin (1905), prulaurasin (1905), vicenine (1906). Examples were given of the products produced on decomposition—linamarin and phaseolunatin giving, for instance, acetone.

Dr. Kohn-Abrest (Paris) pointed out that there are many varieties of phaseolunatin.

Mr. Harrison praised the admirable way in which Professor Bourquelot had summarised a subject particularly interesting from the fact that much of the work had been done in that building. The research should lead to great improvements in physiology and feeding-stuffs. The cases of cattle-poisoning through the presence of cyanhydic glucosides in food had stimulated research in this subject.

At this juncture the members of the section adjourned to the steps of the Royal College of Science to be photographed (see p. 872).

On returning, Dr. E. M. Houghton took the chair, and the first paper, read by Dr. Morselli, was by Dr. G. Garbarini (Ferrara) on "A Method of Purifying Sulphuric Ether from Peroxide." The process consists in shaking the ether with from one to two per cent. of ferric hydrate and storing the product away from light.

Dr. G. Patein (Paris) then read a paper on "The Chemical Study of Therapeutic Serums." This referred to a method of separating the globulin and determining the temperature of coagulation.

Professor J. Effront (Brussels) then read a paper with the title "Ueber den Nährwerth der bei der Zersetzung der Proteinstoffe mit concentrirten Mineralsäuren entstehenden Producte." ["On the Food values of the Products arising from Proteins and on treatment with concentrated mineral acids."]

This paper had been read before several sections of the Congress.

Mr. Harrison next read (in French) a contribution by Professor Luigi Carcano (Milan) entitled "Dove si fissa l'iodio nella molecola albuminoide vivente." The author has set himself to study the phenomena of iodism, and begins the research by endeavouring to find out how iodine fixes itself in the living albuminoid molecule. This he finds from experiments is due to a rearrangement of the nitrogen in the albumen.

Two papers by a Japanese member of the Congress were then read in abstract by the Secretary:

#### THE CONSTITUENTS OF HERBA SCOPOLIA JAPONICA.

The constituents of the roots of *Scopolia japonica*, Maximowicz, and *S. atropoides*, Schultes, have already been investigated, but nothing has been done regarding the leaves of the same plants. Mr. Matajiri Watanabe therefore undertook to investigate the leaves. The dried leaves were repeatedly extracted with warm alcohol (90.91 per cent.), and on evaporation of the alcohol a thick extract of dark-green colour was obtained, which contained water 15.85, part insoluble in water 22.21, part soluble in water 61.94, and alkaloids (chloroform soluble, calculated as hyoscyamine) 1.52 per cent. By converting the alkaloids to their auric double salts, two salts were obtained: one, soluble in water, consisting of yellow leaflets melting at 160°-162°, and the other, a pale yellow salt, insoluble in boiling water and melting at 210°-212°. From their physical properties it was inferred that the former may be a double salt of hyoscyamine, and the latter of scopolamine. Determination of the percentages of gold present gave results agreeing with the formulæ of hyoscyamine and scopolamine gold-salts. From the mother-liquid of the two double salts a minute quantity of a substance melting at 135°-137° was obtained. This may be the auric double salt of atropine. The gold was precipitated from the double salts as sulphide, and the filtrate made strongly alkaline by potassium carbonate and shaken with ether. The free alkaloid from the double salt (m.p. 160°-162°) crystallised from chloroform in long needles, and was found to melt at 108°; that from the double salt (m.p. 210°-212°) could not be isolated in the crystalline form. Elementary analysis of the alkaloids gave results agreeing fairly well with the formulæ for hyoscyamine and scopolamine respectively. *Herba Scopolie japonice* showed alkaloids 0.18 per cent.



The same author communicated a paper on

THE CONSTITUENTS OF HENBANE AND STRAMONIUM  
CULTIVATED IN JAPAN.

The dried leaves of cultivated *Hyoscyamus niger* were extracted with alcohol in three different ways, but only a trace of mydriatic alkaloids could be obtained. When, however, the leaves and fruits were treated in the same way, the alkaloids (0.021 per cent. calculated as hyoscyamine), consisting of scopolamine and a minute quantity of hyoscyamine, were isolated. From this the author concluded that scopolamine appears to occur mainly in the fruits of the plant. Some years ago Shimoyama and Koshima isolated hyoscyamine, with a small quantity of atropine, from the seeds of plants found in the Chiba district, which are considered to be *Datura alba*; but this result is not concordant in agreement with the results obtained by other investigators. According to E. Schmidt, A. Kircher, J. Feldhaus, and others, the chief alkaloid in *Datura alba* is scopolamine. The author repeated Shimoyama and Koshima's experiments, and obtained the same result, getting hyoscyamine (0.1 per cent.) as the main alkaloid. It is therefore probable that the plant is not *Datura alba*, but *Datura Stramonium*, the chief alkaloid of which is known to be hyoscyamine. This view was further confirmed by Mr. Makins through morphological examination.

The discussion centred round the first paper.

Mr. E. M. Holmes said he was only interested in the botanical side of the question. *Datura alba* and *D. stramonium* are very similar plants. He did not understand how it was that *D. nigra* gave no alkaloid from the dry leaves.

Professor H. G. Greenish said the results seemed to be somewhat contradictory.

Mr. E. F. Harrison said it seemed that the fruits alone contained alkaloid.

Professor Greenish retorted that this is not in accord with Schmidt's work. He suggested that there was a misprint in the communication.

Mr. Harrison added that this seemed a case of investigating a material without first being sure of the botanical source. Perhaps a cultivated plant was employed in this case, which might account for the discordant results of various workers.

Mr. E. T. Brewis suggested that excrement was employed as a manure: he believed that in Japan fields are usually manured in that way. He gave an instance where the yield of alkaloid in henbane and belladonna plants diminished after manuring with excrement.

While the last speaker was on his feet the President of the Congress—Sir William Ramsay—entered on a visit to the section. He was very warmly greeted, and regretted that he was unable to join in the discussion, explaining that in his rounds to visit the eighteen sections it is difficult to criticise the papers that happen to be before the section at the time of his visit.

A communication by Dr. Max Hamburg on

EXAMINATION OF MALT EXTRACT

was next read. It stated that only such malt extracts should be employed in medicine which are made from malt alone and which show diastasic activity. The latter should be ascertained by noting the action of the malt-extract on starch paste. Malt extract is often adulterated and it is not easy to detect the adulterants. An important guide is the amount of "non-reducing nitrogen-free extract." The amount of water is first ascertained, then the reducing sugar (as maltose), and finally the albuminoid compound ( $N \times 6.25$ ). The maltose and albuminoid substance are added together and deducted from the amount of the dry extract, the difference being the "non-reducing nitrogen-free extract." A series of pure extracts examined by the author and E. F. Harrison yielded from 8.2 to 20.74 per cent. nitrogen-free extract. If the amount fall below this or be entirely absent, adulteration with monosaccharide substances may be considered to be definitely established. If there is excess of nitrogen-free extract the presence of cane or beet sugar is indicated. The author concluded by expressing the hope that the methods of testing malt extracts might be agreed upon on an international basis.

Mr. Martin said it is impossible to overrate the importance of being able readily to detect adulteration in malt-extract.

Mr. Harrison thought the author had allowed too great a range in his figures. Many malt-extracts would fall within the limits which were undoubtedly adulterated.

Mr. Bennett said malt-extract was bought by hospitals for its food value rather than its diastasic content.

Mr. Harrison said in that case it would be better and cheaper to purchase glucose.

Professor Greenish said it had been suggested that malt-extract should be introduced into the Pharmacopœia. Before that is done it will be necessary to arrive at an understanding as to what it is valued for.

Professor W. E. Dixon said he had no idea for what purpose medical men exhibited malt-extract. He imagined it was given as a food in place of cod-liver oil. It could not be on account of the diastase, as out of twelve samples he examined some years ago only two showed any diastasic activity.

Mr. Bennett said that unless malt-extract were given with starchy food the diastase would not come into the account at all.

Mr. Harrison replied that the extract is usually taken with food, and he reminded Dr. Dixon that there are several malt-extracts on the market which will convert from five to thirteen times their weight of starch in half an hour.

Dr. J. Takamine expressed the opinion that, as a diastasic agent malt-extract is a thing of the past, it is only used now as a food-product. It was the strongest available diastasic ferment some years ago, but now that isolated ferments are obtainable one no longer depends on malt-extract.

At this stage Sir William Ramsay left the room, but before doing so Professor Thoms delivered a graceful tribute to the President, whose reputation, he said, is as great in Germany as in Great Britain. (Hear, hear.)

Mr. H. Swan (Gothenburg) read the last paper, on a "Suggested Improvement in the Method of Preparing Tincture of Ipecacuanha." The tincture made according to the recommendation of the Brussels Conference deposits very much on keeping. Mr. Swan finds that if 70 per cent. alcohol is employed as the menstruum a tincture is obtained which will keep well.

Professor Thoms then proposed a vote of thanks to Mr. Martin and Mr. Harrison for their services as President and Secretary of the section. "I sincerely congratulate you both on the most successful scientific work accomplished by the section."

Mr. Houghton (the President for the sitting) associated himself with the vote of thanks, and the meeting having signified its approval, Mr. Martin and Mr. Harrison both replied, this ending the Section's meetings.

The following is a list of all who attended the Section. In cases where no country is mentioned the persons are resident in Great Britain:

Dr. L. Barthe (France)	Thomas Maben
Dr. L. Benda (Germany)	Peter MacEwan
Prof. Em. Bourquelot (France)	R. Maggioni (Italy)
F. W. Branson	E. Mameli (Italy)
E. T. Brewis	P. M. Mardetschlager (Austria)
James Brown	Dr. Martheinburg
Chas. M. Calves	N. H. Martin
F. H. Carr	W. H. Martindale
Dr. L. v. Cramm (Russia)	A. C. Merrin
A. W. Crossley	Carl Millberg (France)
T. Delphin (Sweden)	S. de Mokrzecki (Belgium)
Col. Henry C. Demming (U.S.A.)	Dr. Van der Meulen (Holland)
W. E. Dixon	Dr. T. Nichikama (Japan)
Prof. Domergue (France)	Dr. G. Outreiz (France)
M. Duyk (Belgium)	R. Plohn (Germany)
Leon Effront (Belgium)	Frederick B. Power
Frederic Ferrein (Russia)	F. Lee Pyman
A. Gascard (France)	F. Ranson
Dr. A. Georgiades (Egypt)	Rosenzweig (Austria)
Dr. F. Goldmann (Germany)	M. S. Salamon
Dr. F. Goldstein (Germany)	Dr. S. Salmorey
Henry G. Greenish	A. L. Savory
J. Hills Hartridge	E. Schell (France)
Dr. F. Haslinger (Germany)	Schneider (Germany)
R. Hellon	Atherton Seidl (U.S.A.)
Dr. Hennings (Germany)	Dr. S. Seidman (Paris)
Henri Herissey (France)	Herbert Spargo
Walter Hills	H. R. Le Suer
David Hooper (Calcutta)	Herbert Swan (Sweden)
M. Houdard (France)	Dr. J. Takamine (Japan and U.S.A.)
E. M. Houghton (U.S.A.)	
D. Lloyd Howard	Dr. L. Thielsch (Germany)
David Howard	Prof. Dr. H. Thoms (Germany)
H. L. Howie	Wolfgang Thoms (Germany)
H. D. Jowett	Thos. Tyrer
Dr. R. Kaya (Japan)	Dr. Uboda (Spain)
Charles A. Keane	S. Valour (France)
Dr. Kopper (Hungary)	Dr. L. Veillon (U.S.A.)
A. S. Kotichaskar (India)	Dr. Viroy (France)
Lebeau (France)	H. E. Watt
Frederic H. Lees	G. Weddell
E. Léger (France)	W. A. Whatmough
Pierre Lemeland (France)	Dr. F. Wirths (France)
Dr. Wilhelm Lenz (Germany)	Prof. R. Wolfenstein (Germany)
Prof. Alex. Linzberg (Russia)	
Hugo Lorenz	Dr. E. Womer (Germany)
Dr. R. Ludres (Germany)	S. W. Woolley



## OTHER SECTIONS.

An occasional walk round the other Sections of the Congress revealed the fact that some of them were animated compared with others, and that three of them were easily ahead of the others in sustained interest—viz., those devoted to agriculture, colouring matters, and physiological chemistry and pharmacology. Bromatology (foods), organic chemistry, and hygiene (disinfectants) also well maintained the interest, although the attendances were variable. The Explosives Section appears to have had the highest record of attendance on one day (113), next came organic chemistry (110), then physiological chemistry (108). The late Dr. Gamgee, President of the last-named Section, was strong on the necessity for it being made a distinct section instead of it being a subsection (*Iva bis*), and a resolution to the effect that it be a separate and independent section entitled "Biochemistry, including pharmacology," was submitted at the final general session. A great deal of interest centred round the Law Section, the presence of the Lord Chief Justice, Lord Justice Fletcher Moulton, and other noted jurists and lawyers expert in chemical matters, and their active participation in the work, being appreciated. We print abstracts of a few of the papers discussed in this and other Sections.

### PHARMACY TRADE-MARKS IN FRANCE.

M. E. Forneau referred to the recent decision of the Cour de Cassation respecting "Pyramidon" as being most unfavourable to the pharmaceutical-products industry. As a consequence of this decision no name which is registered by a manufacturer of a new product, evidently with no other object than that the product should be made known under that name, can in France become a valuable trade-mark if applied to a definite new remedy. He submitted arguments against the decision and explained that it does not apply to the following groups of pharmaceutical specialities:

1. Those applied to secret remedies bearing the name of the manufacturer as *Sirop Rami*.
2. Those containing a definite chemical product, but likewise bearing the name of the manufacturer, as *Aspirin granulé Vicario*.
3. Names having a chemical terminology, but covering heterogeneous mixtures, as *Creosol*.
4. Names given by specialists to chemical products known under other names, as *Purgen* for phenolphthalein.

M. J. Bonnet also stated in a communication that in practice a distinction has been drawn in France between *arbitrary or fancy names* and *ordinary or necessary names*. Of late years the practice has grown of refusing trade-mark protection to manufacturers of pharmaceutical products for even arbitrary and fancy names of new products. Since 1898 the names of chloralose, salol, antipyrine, glycerophosphine, adrenaline, phenosalyl, and pyramidon have been refused on the ground, broadly, that a monopoly in the manufacture and sale of a pharmaceutical product might be created if an exclusive right were given to the name by which such product is generally known. This is the ground upon which patents for pharmaceutical products are refused, and the author considered it an abuse of the law of trade-marks. He pointed out that the validity of a trade-mark for a secret remedy has been recognised (1904), an injunction for infringement of a trade-mark for a pharmaceutical product has been granted to a non-pharmacist (1898), and trade-marks for secret remedies, even such as prohibited by law, have been generally declared valid. He discussed the Pyramidon case, and advocated that the true legal principle, formulated by the Cour de Cassation in a decree of March 22, 1864, should be recognised, that a name given by a manufacturer to a product of his industry should be "legitimate means of advertising his industrial product to the confidence of the public, a means which ought to be protected in pharmaceutical commerce as well as in all other kinds of industry."

### CHEMICAL EXAMINATION OF JALAP.

Dr. Frederick B. Power and Mr. Harold Rogerson, of the Wellcome Chemical Research Laboratories, communicated to the Organic Chemistry Section on Tuesday a long paper on this subject embodying the results of two years' work, a consideration of the results of which render it evident that many of the conclusions which have previously been recorded respecting the composition of jalap resin and various amorphous products obtained therefrom are erroneous. It would be quite fallacious to assign to the so-called "convolvulin" any empirical formula whatsoever, inasmuch as by successive extraction with solvents, such as chloroform, ethyl acetate, and alcohol, it may be further resolved into several products, all

of which, moreover, are amorphous and of indefinite composition. Similar conditions exist with regard to the character of the amorphous products obtained by the alkaline hydrolysis of the resin, such as the so-called "purgic" and "convolvulin" acids, to which definite formulae have likewise been assigned. Both of the last-mentioned products are complex mixtures, some of the constituents of which are not even glucosidic. The authors show, for example, that the alcohol extract of the resin, when hydrolysed by baryta, yields a product which, like the original resin, is capable of being further resolved, when successively extracted with ether, chloroform, ethyl acetate, and alcohol. The last-mentioned alcoholic extract, when heated with dilute sulphuric acid, affords, moreover, not only sugar and convolvulinic acid,  $C_{15}H_{30}O_8$ , as indicated by Hoehnel in the case of a less completely purified product, but also ipurolic acid,  $C_{14}H_{28}O_8$ , and several volatile acids, while a portion of it apparently remains unchanged. It is thus obvious that the "convolvulinic acid" of Hoehnel cannot be regarded as an individual substance. It was deemed desirable to subject the resin to a more complete examination, and the results are embodied in the paper.

The following are the constituents of definite character or composition which the authors have isolated:

ESSENTIAL OIL, sp. gr. 0.886 at 20°/20°, optically inactive.  
SUGAR, which yielded *D*-phenylglucosazone, m.p. 217-218°.  
RESIN, 9.4 per cent., which yielded with (1) petroleum ether, 1.9 per cent. extract containing—

Palmitic and stearic acids (free), formic, butyric and higher volatile acids, palmitic acid, and unsaturated acids, chiefly linolic (combined).

Phytosterol, cetyl alcohol and  $C_{18}H_{36}O$ .

(2) Ether extract (9.7 per cent.) consisting of ipurganol,  $C_{21}H_{42}O_2(OH)_2$ , m.p. 222-225°; (3) chloroform extract (24.1 per cent.), containing  $\beta$  methylsculetin,  $C_9H_8(CH_3)_2O_4$ , and after treatment with alkali and sulphuric acid, formic, butyric and *d*-methyl-ethylacetic acids, and convolvulinic acid,  $C_{15}H_{30}O_8$ ; (4) ethyl acetate extract (22 per cent.), the same acids as in 3, and a higher homologue of the last— $C_{17}H_{34}O_8$ ; (5) alcohol extract (38.8 per cent.) yielded on treatment the acids before mentioned, besides azelaic, sebacic, and valeric acids.

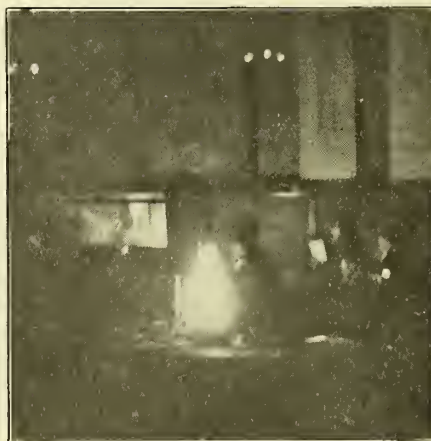
The five extracts were physiologically tested by Dr. H. H. Dale, of the Wellcome Physiological Research Laboratories, 1 gram of each being administered to dogs, with the following results:

- I. The petroleum extract had no effect.
- II. The ether extract produced prompt, but not severe, purgation.
- III. The chloroform extract caused repeated purgation, lasting for forty-eight hours.
- IV. The ethyl acetate extract was similar in its action to the chloroform extract, the purgation lasting twenty-four hours.
- V. The alcohol extract produced repeated and powerful purgation.

Apart from the purgative action of the various extracts no effect was observed, all the animals having remained perfectly well.

### AN ELECTRO-CHEMICAL DEMONSTRATION.

As reported on p. 870, Dr. E. Bernthsen delivered a lecture on the oxidation of atmospheric nitrogen to a joint session of six sections. A photograph of his most striking experiment



MAKING NITRATES FROM THE AIR.

was taken by Mr. E. T. Brewis, and is here reproduced. Dr. Bernthsen is seen behind the electric arc, and to the right (sitting) is Dr. H. E. Armstrong, who presided.



## Closing Proceedings.

These took place on Wednesday morning in the Great Hall, where all the sections of the Congress assembled shortly after 10 o'clock. On the platform were Sir Henry Roscoe, Sir William Ramsay, Professor Lindet, Professor Paternò, and Mr. Macnab (the General Secretary). The first announcement by the President was that a message had been received from the King hoping that the wet weather would not prevent the members of the Congress from visiting Windsor Castle. This was received with cheers, and the reports of the various sections were then presented to the Congress. First of all Sir William Ramsay reported that there had been 3,000 members present and 650 ladies; then one by one representatives of the sections came on to the platform to read their reports. Where these embodied resolutions, such were put to the meeting by the President after an explanation in French and any other language which was required. In some cases the resolution carried with it a grant of money, which was in each case voted unanimously by the Conference. When the time arrived for "Section VIII b Pharmaceutical Chemistry," Mr. Martin mounted the platform and read the resolution (see p. 879). Mr. Harrison also spoke; and Sir William Ramsay, explaining in French the terms of the resolution, said everyone would agree that it is very desirable to endeavour to secure uniformity in the strength of drugs used throughout the world. The resolution was then put to the meeting and carried unanimously.

Among the other items it may be mentioned that the subsection devoted to "Physiological Chemistry and Pharmacology" obtained the consent of the Conference to be formed into a separate section. A little excitement was caused when Professor H. Taffe (Nice) got on the platform and asked the Conference to signify its approval of a resolution making it illegal to use a centrifugal machine in any place where milk is sold. The idea of the proposer is that this practice leads to milk-adulteration. The meeting, however, recognising the drastic character of the resolution, did nothing. The whole of the resolutions from the Legal Section were held over in the absence of any representative of the Section. The Hygiene Section made some recommendations which included a suggestion to appoint inspectors to give advice with a view to preventing atmospheric pollution by smoke and gases. Sir Hugh Bell objected to this, and the Congress refused to agree to the resolutions. The International Commission on Analyses was voted a grant of 80*l.* for expenses.

### THE NEXT MEETING.

The remainder of the proceedings were mainly in connection with the next meeting of the Conference. Mr. Whitelaw Reid (U.S. Ambassador) conveyed an invitation from the President of the United States inviting the Conference to America in 1912. This proposal was supported by Dr. Wiley and Professor Meldola, and accepted by the meeting.

The officers for the next Congress were then elected. These were Professor E. W. Morley, Hon. President, and Dr. W. H. Nichols, President; the official delegates from the United States being elected to form an Organising Committee. Dr. Witt and Dr. Baskerville spoke in support of these elections, and Dr. Nichols, in thanking the Congress, said it was the greatest honour that had ever been bestowed upon him.

On the suggestion of Sir William Ramsay it was resolved to appoint a permanent officer (*Délégué des Présidents*) to ensure the continuity of the Congress. The choice of this official is to be left to the Past-Presidents, and the expense is to be borne by the Eighth Congress.

Sir Henry Roscoe then proposed that the communications of the Congress should be submitted to an English Publication Committee before they are printed, so as to avoid unnecessary expense in printing papers that have already been published, and to reduce the size of the Proceedings. This was agreed to, and then delegates from twenty-four countries made speeches thanking the British Committee and its officers for the way the Congress had been organised. This occupied some time, and it only remained for the President to declare the Congress closed. This was done amidst prolonged cheering.

## Festivities.

### The Government Reception.

On Thursday evening, May 27, a company of 2,000 was received at the Foreign Office by Mr. Lewis Harcourt, M.P., and Mrs. Harcourt, on behalf of the Government. It was a compliment to chemical industry that this was one of the first occasions on which part of the appropriation for the national entertainment of such Congresses as this was used. The magnificent gathering outshone even that at the Guildhall on the previous evening. The reception commenced at 9 o'clock, Mr. and Mrs. Harcourt standing at the top of the first flight of the grand staircase and shaking hands with the guests as they ascended. A suite of magnificent rooms was thrown open, and these were reached after passing through the crowded corridors. Besides the members of the Congress a distinguished company was bidden to meet them, including the foreign Ambassadors and Ministers in London. Several members of the Cabinet were also present, and members of the Houses of Lords and Commons. It was a gathering eminently serviceable in promoting the international *Entente cordiale*. Among those connected with pharmacy whom we noticed in the rooms were Dr. Willy Merck, Mr. and Mrs. R. W. Greeff, Mr. F. M. Fisk, Mr. Thomas Tyrer, Mr. G. E. Pearson, Mr. Twietmeyer, Mr. and Mrs. T. P. Morson, Mr. and Mrs. F. W. Branson, Mr. and Mrs. Hills Hartridge, Mr. and Mrs. A. L. Savory, Professor and Mrs. H. G. Greenish, Mr. George Weddell and Miss Lesley Weddell, and Mr. E. F. Harrison.

### Dinner in the Crystal Palace.

On Friday evening a great banquet was held in the Crystal Palace, when chairs were set for 2,096 diners. A series of special trains began to leave Victoria Station for the Palace at 6 o'clock, and continued running until about 7. The arrangements were most businesslike, and were carried through without a hitch. This may also be said of the Palace arrangements, where Messrs. J. Lyons & Co., Ltd., excelled themselves. Sir William Ramsay and Lady Ramsay held a reception during the hour of waiting. The banquet was served at 8 o'clock in the Great Hall, where, in front of the organ, was placed a long table, at which sat Sir William Ramsay, who presided, and there were also at this table Sir Henry Roscoe, Professor Paternò, Lady Ramsay, Dr. and Mrs. Witt, M. and Madame Lindet, M. and Mlle. Gautier, Sir James and Lady Dewar, Sir Hugh and Lady Bell, Sir Theo. and Lady Fry, Dr. H. W. Wiley, Dr. von Böttinger, Dr. and Mrs. Beilby, M. and Mlle. Le Chatelier, Mrs. E. K. Muspratt, Mrs. Wightman, Professor Arrhenius, Professor Hoogewerff, Mr. Thomas Tyrer, Professor and Mrs. Meldola, Sir D. Morris, Dr. T. E. Thorpe, Professor Ischugaeff, Dr. F. W. and Mrs. Clarke, Sir F. Bridge, Sir R. Carton, Dr. Karl and Mrs. Glaser, Professor Klason, Dr. Nichols, Dr. Wichelhaus, Professor Ciancian, Professor Piutti, and Mr. E. Brotherton, M.P. In front of this principal table were several series placed lengthwise, each table being capable of accommodating about 100 guests. It was the original intention to seat the members of particular Sections at individual tables, but it was not possible to carry this plan out, as about 500 applications for the dinner were received within two days of its being held. Among those connected with pharmacy whom we noticed were Mr. and Mrs. F. W. Branson (Leeds), Mr. and Mrs. George Haller, Mr. N. H. Martin and Miss Martin, Mr. Arrowsmith, Mr. and Miss Weddell (Newcastle-on-Tyne), Mr. W. L. Howie, Mr. E. F. Harrison, Dr. F. B. Power, Mr. and Mrs. T. P. Morson, Mr. T. D. Morson, Mr. and Mrs. J. Hills Hartridge, Dr. Levy Mond, Professor and Mrs. Thoms (Berlin), Miss Thoms and Mr. Wolfgang Thoms, Mr. and Mrs. Peter MacEwan, Mr. Twietmeyer, Mr. and Mrs. Greeff, and Mr. Frederic Ferrein. Apart from the soup and fowl, the dinner was a cold collation. The menu-card was international in character, bearing on the front page the arms of Belgium, France, Austria, Germany, Italy, and England, those countries which have given hospitality to the Congress. At each corner of the menu and toast pages was a portrait of a President of the Congress—namely, Hannise (1894), Lindet (1896), Pregiss (1898), Moissan (1900), Witt (1903), Paternò (1906), Sir Henry Roscoe, and Sir William Ramsay. While the company was assembling the great organ was played, and during dinner an orchestra of ladies and another of men played international airs. After dinner "The King" and "Foreign Rulers" were toasted at the invitation of the President, who also submitted the only other toast, "The Guests," to which Dr. W. H. Nichols replied for the United States, Professor Gautier for France, Dr. Bohuslav Brauner for Austria, Dr. von Böttinger for Germany, Professor Piutti for Italy, and Professor Hoogewerff (Holland) for other countries. Immediately after dinner there was a special fireworks display of striking beauty, the set pieces including a portrait of Sir Humphry Davy and a sketch of "The



Alchemist." The return journey was done without any attendant fuss or crowding, and all the guests were landed at Victoria between 11 and 12 o'clock.

### Garden Parties.

Saturday afternoon, May 29, was a time of both sunshine and cloud. Between 3 and 6 o'clock the Ladies' Committee of the Congress gave a garden-party in the Botanic Gardens, which was a striking success. Besides two military bands, there was a good programme of morris-dances by young ladies from the Chelsea Polytechnic, and a little band of children from one of the L.C.C. schools went through a series of Old English games, such as "London Bridge is broken down." These items were the most enjoyable feature of the entertain-



MORRIS DANCES IN THE GLADE.

ment, and were much admired by the Britishers, as well as by the foreign guests. The photograph which we reproduce was taken by Mr. E. T. Brewis while the morris-dancers were going through one of their items. Besides this entertainment the boy pipers of the Royal Caledonian Asylum played elsewhere in the grounds Scotch airs, eight of them giving a number of Scotch dances, including Ghillie callum.

It is impossible to refer in detail to all the hospitality that was shown, but the garden-party which Dr. Ludwig Mond, Mrs. Mond, and Mr. Robert Mond gave on Sunday afternoon was conspicuous for the originality of the entertainment and the refinement of the refreshments provided. Miss Ruth St. Denis, the celebrated classical dancer, gave some of her most characteristic pieces. All who were present, and the number was over 1,500, were enthusiastic about the charm of this party, and one American lady remarked, "I guess you Britishers can give us points in showing us how to make people happy." The same afternoon Dr. and Mrs. L. T. Thorne entertained a large party to tea at the pavilion in Kew Gardens, which had attracted many Congress visitors.

### Receptions and Dinners.

On Saturday evening the London Section of the Society of Chemical Industry gave a reception in the Imperial Institute buildings. The guests were received by Dr. Lewkowitsch (Chairman of the Section), Mrs. Lewkowitsch, Mr. and Mrs. E. Grant Hooper, and Mr. and Mrs. Julian L. Baker, who stood at the top of the staircase, from which the guests passed into the Great Hall. Dr. and Mrs. Lewkowitsch were still receiving at ten o'clock, which was an hour and a half after they had begun to shake hands with the first of the 3,000 guests. A series of entertainments were provided. For instance, there was a concert in the Great Hall, and in the gardens Alfred Hays's Red Band performed a number of pieces. In the west gallery and in the gardens there were buffets, and the upper galleries were allocated to smokers. Professor Hubert studied the psychological characters of lady guests, and Madame Beatrice did palm-reading. There was dancing in the east gallery, and it afforded once again a proof of the fact that there is an accepted international standard for at least one thing—the dreamy waltz. The reception was most successful.

On Monday evening there were several entertainments. The American Ambassador and Mrs. Whitelaw Reid gave a dinner at Dorchester House to the American delegates to the Congress, to meet with a select party from the diplomatic circle were invited. After the dinner, at 9.30, a reception was held, which was largely attended. On the same evening Sir Andrew Noble, K.C.B., and four other leading members of the Congress also gave receptions.

The final reception of the members of the Congress was held in the Natural History Museum on Tuesday evening, when the guests were received by Sir Henry and Lady Roscoe and Sir William and Lady Ramsay. Besides a long musical programme, one of the attractions of this gathering, which numbered between 2,300 and 3,000, including many ladies, was an exhibition of microscopic objects by the Royal Microscopical Society. The entertainment lasted until midnight, when the principal guests gathered round the statue of Darwin, and, joining hands in Caledonian fashion, sang "Old Lang Syne."

During the Congress there were many dinner parties of a private or semi-private nature. The only one of these directly connected with pharmacy that we have heard of is that given by Mr. F. M. Fisk at the Hyde Park Hotel on Tuesday evening, when, among others, there were present Professors A. R. Cushny (University College, London), Dr. H. Thoms (University of Berlin), W. E. Dixon (Cambridge University), Chas. Baskerville (City of New York College), H. G. Greenish (School of Pharmacy), Dr. Leon Grimbart (Ecole de Pharmacie, Paris), and Mitsuru Kuhara (Kyoto Imperial University), Mr. Walter Hills, Dr. Jokichi Takamine, Dr. E. M. Houghton, Dr. James Cantlie, Dr. W. H. Martindale, Dr. W. Hunter Richards, Mr. David L. Davoll (Cuba), and Mr. Frederic Ferrein (Moscow). In the course of the evening the interesting announcement was made by Professor Mitsuru Kuhara that it is hoped the ninth Congress will be held in Japan.

The final function was a trip to Windsor Castle on Wednesday afternoon. It was understood that it would not take place if the day was rainy, but an intimation was received from the King during the morning's rain that the visit should be paid "rain or shine," and it was, 3,000 ladies and gentlemen journeying from Paddington by special trains. Again the arrangements were right, and the rain ceased, so that the large party viewed the Castle under pleasant circumstances. Sir William Ramsay, who accompanied the party, sent a telegram to Lord Knollys thanking the King, on behalf of the Congress, for his gracious permission to visit the Castle.

## Materia Medica Notes.

**Spurious Senega-root.**—Hartwich describes ("Schw. Woch.," 1908, No. 47) a false senega which is brought on the market in admixture with the genuine drug, but whether the adulteration is accidental or otherwise is not known. The spurious root resembles the genuine drug in external appearance. The colour is much the same, and the root, which terminates in a knotty crown, is wrinkled and twisted. However, it is readily distinguished in transverse section by several, usually three, concentric rings of collateral bundles of phloem and xylem, formed owing to successive origin of as many cambial zones. This is in marked contradistinction to the solid state of senega, which has also frequently wedged-shaped masses of parenchyma among it. The abnormal bast of the true senega is also absent. The bundles of the false senega, whose origin is unknown, may be eccentric. Fibres, stone-cells, crystals of calcium oxalate, and starch were not found.

**East African Poisonous Plants.**—In the current number of "Der Tropenpflanzer" (1909, 10, p. 134), Dr. Krause states that he has examined recently the seeds of *Dichapetalum macrocarpum* and *D. mossambicense* var. *Busseanum*, both of which were collected by Dr. Busse's expedition to German and other East African Protectorates. Both these plants are well known throughout East Africa to be poisonous to animals, and are near relatives of the South African plant *Dichapetalum cymosa* and the West African *D. toxicaria*, of which the latter was exhaustively examined some years ago in the Wellcome Research Laboratories, and shown to contain two amorphous toxic constituents (Power and Tutin, "J. Amer. Chem. Soc.," 1906, 28, 1170). Krause finds that the seeds of *D. mossambicense* var. *Busseanum* contain a crystalline glucoside, which acts as a heart-poison. The glucoside is named "dichapetalin," but it has not been completely isolated—the acicular crystals, which separated from the toxic residual aqueous extract, being assumed to be the glucoside. From the kernels of *D. macrocarpum* no definitely toxic constituent has yet been isolated, but it is known to be extracted by light petroleum and ether along with a fixed oil. The author and Dr. Brieger find also that the leaves, wood, fruit, and seed-kernels of *Acocanthera venenata* contain a poisonous glucoside as well as a suerolastic enzyme, which resolves the glucoside into physiologically inactive components. Poisonous glucosides have also been obtained from the stems of *Adenium coarctatum*, Stapf, and another undetermined *Adenium* species.



## Trade Report.

**NOTICE TO BUYERS.**—The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers stock the goods. Qualities of drugs and oils vary greatly, and higher prices are commanded by selected qualities even in bulk quantities. It would be unreasonable for retail buyers to expect to get small quantities at anything like the prices here quoted.

42 Cannon Street, London, E.C., June 3.

THE course of business having been interrupted by the Whitsuntide holidays, there are few changes to report. There is, however, a steady undercurrent of trading in regard to several lines of Mincing Lane produce, this including Singapore pepper, in which a large business has been done for arrival. Among chemicals, the demand for tartaric acid remains exceptionally good, but the price does not move. Cream of tartar is easier, especially 95-per cent. Copper sulphate has advanced considerably, and ammonium sulphate is firmer. The makers' prices of ammonium and sodium bromides have been adjusted, showing an advance of  $\frac{1}{2}d.$ , but potassium is unaltered. Citrates are easier. Glycerin is very firm at last week's advance. In crude drugs, the principal movement has been in Matto Grosso ipecacuanha, prices of which have advanced about  $5d.$  Both lycopodium and Russian cantharides are firmer. Dragon's-blood and Persian galls have arrived freely, but there is still a marked absence of asafetida, which is badly wanted. Jalap shows no signs of easing. Opium is firmer, Turkey shippers having raised their limits in some instances. The insignificant cod-fishing at Finmarken helps to maintain the firmer tendency in the oil, but business is quite retail. The distillation of the new Bulgarian otto is proceeding favourably. The principal changes have been as under:

Higher	Firmer	Easier
Copper sulphate Ipecacuanha (Matto Grosso) Pepper	Ammonia sulphate Cantharides (Russian) Lycopodium Canary seed Opium	Cream of tartar Shellac Turpentine

### Cablegrams.

BERGEN, June 2:—The cod-fishing at Finmarken is now insignificant, and the price of finest Lofoten medicinal oil is 1s. firmer at the equivalent of 63s. per barrel c.i.f. terms.

NEW YORK, June 3:—Business in drugs is dull. Opium is easy at \$4.20 per lb. for druggists'. Senega is steady at 45c., and cascara sagrada is quiet at 8 $\frac{1}{2}$ c. Podophyllum-root (mandrake) is lower at 7 $\frac{1}{2}$ c. Copaiba balsam is steady at 45c. for Central and South American. Canada balsam is firm at \$7.50. Oregon balsam has advanced to \$1.10. Peppermint oil is steady at \$1.45 per lb. for Wayne County in tins, and jalap is firm at 45c.

### Heavy Chemicals.

Business in the heavy-chemical market has been affected since last writing by the holidays, and consequently has been on the quiet side. The better all-round feeling lately noted, however, continues, and there seems a prospect of a heavier and steadier demand in most branches, and both home and export orders are more promising. The demand for the most part is for prompt or early delivery, and there is not much doing for deferred.

SULPHATE OF AMMONIA.—This product is steadier than it was, and there has been more inquiry on both prompt and forward account, the actual business passing, however, being mainly for the former. Present nearest figures: Beckton prompt 117. 10s., Beckton terms 117. London 117., Leith 117. 5s. to 117. 6s. 3d., Liverpool 117. 1s. 3d. to 117. 2s. 6d., and Hull 117.

to 117. 1s. 3d. Makers' ideas for forward both to end of year and spring delivery are appreciably above these figures.

BICHROMATES OF POTASH AND SODA are in fairly steady request at late rates. Bichromates of soda, English and Scotch deliveries, 3d. per lb., less 2 $\frac{1}{2}$  per cent., and export 2 $\frac{3}{4}d.$  per lb. net f.o.b. Glasgow. Bichromate of potash, English and Scotch deliveries, 3 $\frac{1}{2}d.$  per lb., less 2 $\frac{1}{2}$  per cent., and export 3 $\frac{1}{4}d.$  per lb. net f.o.b. Glasgow.

BARIUM PRODUCTS show little or no fluctuation. There is a good average demand and prices maintain a very steady tone. The mineral carbonate of barytes or witherite is in somewhat better supply, but business is still on the basis of special arrangement as regards quantity and delivery. Blanc fixe, pure precipitated sulphate of barytes in paste form, 67. 15s. to 77. 10s. per ton in usual casks. Mineral sulphate of barytes 40s. to 100s. per ton, according to quality, quantity, and package. Chloride of barium, ordinary refined crystals, 77. to 77. 10s. per ton. Crude calcined barium sulphide, 70 to 75 per cent., 57. 5s. to 57. 17s. 6d. per ton. Hydrate of barium, purest crystals, 137. 10s. to 147. 10s. per ton in 6/7 cwt. casks, and fused concentrated barium hydrate, 56 to 60 per cent. BaO solid in 5/6 cwt. drums, 137. 15s. to 157. per ton. Crushed concentrated quality in special drums, about 3 cwt. each, 30s. per ton extra.

### Manchester Chemical-market.

June 1.

All Lancashire is on holiday bent, as usual at Whitsuntide, and after to-day business is practically suspended for the week. There was a meagre attendance on the chemical section of the Royal Exchange, and, as compared with last week, there were few changes to record in any direction. The principal feature was the strong demand for sulphate of copper, which is now quoted 197. to 197. 10s. per ton, best brands delivered Manchester. Works report a fair clearance and offers forward are not numerous. In coal-tar products sulphate of ammonia remains unchanged for delivery on rails, Manchester, at 107. 15s. to 107. 16s. 3d., with poor demand. Pitch is very firm and creosote is quoted 2 $\frac{1}{2}d.$  to 2 $\frac{3}{4}d.$  per gal.

### Continental Drug and Chemical Markets.

CANTHARIDES.—It appears to be confirmed that the crop is small, and business has been done in Hamburg at 5.10m. For deliveries from Russia nothing is to be obtained at less than 5m. per kilo. net cash.

HYDRASTIS.—The small stocks of last autumn root have brought the price from 1,775m. to 1,800m. per 100 kilos, in wholesale quantities. In June-July spring-dug root will be on the market, this quality being already offered at 1,550m. It must, however, be remembered that this latter is of inferior quality.

LYCOPODIUM.—More business has taken place in spot (Hamburg) goods owing to the unfavourable reports concerning the Russian crop; for cases 3.20m. and for bags 3.10m. have been paid. The prices now asked are 3.30m. for cases and 3.20m. per kilo. for bags.

MILK-SUGAR.—For the time being business is normal and the demand even at the higher prices is good in Germany. In foreign countries a duller tendency is observed, and it would appear that small lots of milk-sugar from the U.S.A., which country has not been an exporter for a long time, have again appeared on the English market. Through a restriction in production in foreign factories it would appear that over-production, formerly noticeable, has been obviated.

POTASH PRUSSATE (YELLOW).—The complete lack of interest displayed is probably the reason for this chemical having fallen into still greater depression, and a further fall of several marks per 100 kilos. is announced. Greater reserve than was formerly the case will now characterise dealings.

TIN OXIDE.—The frequent, if slight, price alterations brought about by its dependency on the metal markets have created a feeling of great uncertainty in market conditions. Price differentiations of from 2m. to 4m. were noticeable, sometimes in a higher and sometimes in a lower direction, but the general tendency is rather towards a fall than a rise.

ACID, TARTARIC.—Although the demand has remained extremely good and makers are considerably behindhand with their deliveries, values do not move, and the old quotations of 10 $\frac{3}{4}d.$  for English and 10 $\frac{1}{4}d.$  for foreign prevail.

ALOES.—The arrivals comprise 31 cases from Mossel Bay and 8 cases from Aden.

ANISEED.—The quotations are unchanged at 20s. per cwt. for Russian and 37s. 6d. for Spanish.

ARABICA.—The s.s. *Clyde*, from Bahia, has brought eight cases.



**ASAFETIDA.**—The *Edenhall*, from Bunder Abbas, has brought seven cases only, and as the next boat is not due for five weeks, the scarcity is likely to continue.

**BENZOIN.**—The s.s. *Perseus* has brought 182 cases from Singapore and Penang and the s.s. *Chumpon*, from Bangkok, has brought 28 cases of Siam.

**BROMIDES.**—The English makers' prices for both ammonium and sodium bromide were advanced last week by  $\frac{1}{2}d.$  per lb., those of potassium remaining unaltered. The present quotations are  $10\frac{3}{4}d.$  net for potassium in 1-cwt. or 10-cwt. lots,  $1s. 1d.$  net for sodium, and  $1s. 2d.$  net for ammonium in  $\frac{1}{2}$ -cwt., or 1-cwt. lots. Foreign potassium is  $10\frac{1}{2}d.$  in ton lots in cases, and in second-hands a little is obtainable at  $10\frac{1}{4}d.$  It may be pointed out that the advance referred to above is more in the nature of an adjustment rather than a move on the part of the Convention, this being due to the fact that the English prices for ammonium and sodium were not in accord with those of American and Continental makers. The makers will only sell for prompt delivery, and the feeling is that higher prices will be apparent ere long.

**CAMPHOR (REFINED).**—The market for Japanese refined is firm but quiet, with sellers of 1-oz. tablets at  $1s. 8\frac{1}{2}d.$ ,  $\frac{1}{4}$ -oz. at  $1s. 9d.$ , and slabs at  $1s. 6\frac{1}{2}d.$  spot. To arrive August-September shipment of  $2\frac{1}{2}$ -lb. slabs have been sold at  $1s. 5\frac{1}{2}d.$  c.i.f., with sellers of September-October at  $1s. 5\frac{3}{4}d.$  c.i.f., and  $\frac{1}{4}$ -oz. and 1-oz. tablets in the same position at  $1s. 6\frac{3}{4}d.$  c.i.f. English bells are quoted at  $2s.$  and flowers at  $1s. 11d.$

**CANARY-SEED** is firmer. A fair business has been done during the past fortnight at  $37s. 6d.$  per quarter for current quality, but holders now require higher prices.

**CANTHARIDES.**—Unfavourable reports in regard to the Russian flies have led to holders asking the firmer rates of  $2s. 3\frac{1}{2}d.$  to  $2s. 4d.$  per lb. c.i.f.

**CARAWAY-SEED** is quiet at  $37s.$  per cwt. for old crop Dutch on the spot.

**CHIRETTA** is offered at  $3\frac{1}{2}d.$  per lb., but probably  $\frac{1}{2}d.$  less would be taken for a round lot.

**CINCHONA.**—Further particulars in regard to the Amsterdam auction to be held on June 10 show that the 7,018 bales and 1,032 cases Java bark weigh 710,807 kilos., and the 39 cases Sumatra 2,745 kilos. The above 8,050 packages Java bark comprise 88,307 kilos. pharmaceutical and 622, 500 kilos. manufacturing cinchona, containing respectively 2,619 kilos. and 40,055 kilos. quinine sulphate. The average quinine-content of the manufacturing-bark is 6.45 per cent., as compared with 6.18 per cent. at the previous auction. The exports from Java during May amounted to 1,319,000 Amst. lb.

**CITRATES.**—The makers' prices have been reduced by  $1d.$  per lb., ferri et ammon. cit. and potash citrate being quoted  $1s. 7d.$ , and sodium citrate  $1s. 10d.$  per lb.

**CLOVES.**—Zanzibar are quiet but steady, the sales including June-August shipment at  $4\frac{1}{2}d.$  to  $4\frac{3}{4}d.$ , closing buyers at  $4\frac{1}{2}d.$

**COLOCYNTH.**—The exports from Jaffa during 1908 amounted to 76,000 lb. (4,500%), against 86,490 lb. (4,990%) in 1907, 126,515 lb. (6,000%) in 1906, 52,500 lb. (3,370%) in 1905, and 57,000 lb. (3,650%) in 1904.

**COPPER SULPHATE** has advanced about  $17s. 6d.$  per ton, Liverpool makes being quoted at from  $19l. 7s. 6d.$  in casks to  $19l. 17s. 6d.$  in kegs for June delivery.

**CORIANDER-SEED** is unchanged at  $9s. 6d.$  per cwt. for common and  $10s. 6d.$  to  $11s. 6d.$  for fair to good Morocco.

**CREAM OF TARTAR** is a shade easier, 98-per-cent. offering at  $72s. 6d.$  per cwt. and 95-per-cent.  $70s. 6d.$

**CUMIN-SEED.**—The price remains nominally  $45s.$  per cwt., but stocks are exhausted, and there are no offers of new crop yet on the market.

**DRAGON'S BLOOD.**—The s.s. *Hitachi Maru* has brought eight cases from Singapore and 15 cases from Penang.

**FENNEL-SEED.**—A new parcel of 64 bags Persian is just landing, for which  $18s.$  to  $18s. 6d.$  is asked.

**FENUGREEK-SEED.**—The spot value is still given at  $9s. 6d.$  to  $10s.$  per cwt. for ordinary to good Morocco, but new crop can be bought at  $7s.$  per cwt. c.i.f. terms.

**GALLS.**—Arrivals amounting to about 720 bags have taken place from the Persian Gulf.

**GINGER.**—No auctions have been held this week. In Liverpool the sales include 150 bags of Cochin at  $39s.$  per cwt. in store.

**GLYCERIN.**—The market remains very firm at last week's advance to  $71l. 10s.$  for 5-ton lots in 10-cwt. drums, and  $75l. 10s.$  in tins and cases for double-distilled s.g. 1.260 quality. In second-hands these prices might be shaded, but the quantity on offer is only small. The position on the Continent appears to be even more stringent than here, as many inquiries have come from that direction, but in the present scarcity business cannot be effected. Several reasons are urged for the increased demand for crude glycerin, one of the principal being that the United States has recently been a large buyer for explosive purposes in connection with the Panama Canal.

**GUAIACUM.**—The exports of resin from Hayti during 1907-1908 amounted to 13,085 lb., against 11,198 lb. in 1906-1907 and 9,228 lb. in 1905-1906.

**GUINEA GRAINS.**—A recent arrival of five bags in Liverpool is held for  $75s.$ , and in London  $80s.$  is asked for a small lot in second-hands.

**HONEY.**—According to the British Consul at San Francisco, the production of honey in California during 1908 was a great disappointment to the bee-keepers. In Southern California, where about 75 per cent. of the crop is usually gathered, and where the better grades of honey are produced, extensive preparations were made in anticipation of a large crop. Stimulated by the high prices realised in 1907, considerable attention was paid to breeding, multiplying, and getting the bees in fine physical condition. The season started favourably with copious rains, but during the latter part of February and the entire month of March there was none, and the deficiency proved a very serious matter. The yield fell from an expected large one to about one-third or one-half of the average. The total crop is placed at 4,284,000 lb. In Arizona there was produced in 1908 about 6,500 120-lb. cases of extracted honey and about 2,000 24-lb. cases of comb.

**IPECACUANHA.**—Dearer. The two principal importers of Matto Grosso have advanced their prices to  $5s. 6d.$  per lb., previous to which a very fair business had been done from first and second hands at between  $5s. 2d.$  and  $5s. 3d.$  per lb. for ordinary to fair. The deliveries of ipecacuanha in May amounted to 50 bales.

**JALAP.**—Some 30 bales have arrived here during the past fortnight, but most of them have gone into consumption. The spot price for root testing about 10 per cent. is  $2s.$ , and from New York  $2s.$  to  $2s. 2d.$  c.i.f. is quoted by letter.

**LEMON-JUICE.**—The demand is steady, the price of English being  $1s. 6d.$ , and for Sicilian  $1s. 4d.$  per gal. has been paid; but it is doubtful if more could be had at this figure.

**LIME-JUICE.**—Recent arrivals have been on a fairly large scale, and the spot supplies are plentiful, but with a steady demand prices are unaltered at from  $1s. 1d.$  up to  $1s. 4d.$  per gal., the latter for fine pale raw.

**LINSEED.**—Good quality is worth  $50s.$  to  $52s.$  per quarter.

**LIQUORICE-ROOT.**—Several consignments of common natural root have arrived from Marseilles, also 33 bales of Persian, the recent high prices having induced shipments.

**LYCOPodium.**—Unfavourable reports in regard to the Russian crop and the fact that some cheap parcels have been disposed of in Hamburg have led to a firmer feeling, holders quoting  $1s. 6\frac{1}{2}d.$  to  $1s. 7d.$  c.i.f. for double-sifted.

**MENTHOL** is practically in the same position as last week: small spot sales have been made at  $7s. 3d.$ , and  $7s. 4d.$  is asked.

**OIL, COD-LIVER.**—The firmer tendency previously noted is maintained so far as quotations from Norway are concerned, but there is practically nothing doing here at the moment, agents asking from  $62s.$  to  $63s.$  per barrel c.i.f. for finest non-congealing Lofoten oil.

**OIL, LEMON.**—Advances from Sicily continue to point to an absence of demand from abroad, and local dealers are also holding off as much as possible, the consequence being that several holders have had to accept easier prices. From



3s. 2d. to 3s. 3d. c.i.f. terms is quoted, and on the spot prices vary considerably between 3s. 3d. and 3s. 9d. per lb.

**OILS (FIXED).**—*Linsced* is firmer at 23s. 7½d. per cwt. in pipes and 24s. in barrels. *Coconut* is firm at 31s. for Ceylon and 33s. 6d. for Cochin on the spot. *Rape* is steady at 27s. spot for crude and at 29s. for English refined in casks. *Cottonseed* is firmer at from 22s. 9d. to 23s. for crude, at 24s. for ordinary pale refined, and at 26s. for sweet refined. *Lagos Palm* oil is unaltered at 28s. *Soya* oil is quoted at 21s. naked on the spot. *Turpentine* is about 1s. 6d. lower on the week at from 27s. 10½d. to 28s. for American on the spot. *Petroleum* is quoted at from 6d. to 6½d. for Russian, 6½d. to 6¾d. for ordinary refined American, and from 7½d. to 7¾d. per gal. for waterwhite.

**OPUM.**—Cables to hand from Constantinople this week from shippers intimate an advance in the limits of from 6d. to 9d. per lb., and, judging from this, it would appear that supplies in primary markets are smaller than anticipated. It is believed that as the new crop will not be available until August there will probably be a "squeeze" in the market before that time, as the United States are still buyers, added to which stocks everywhere, both of Turkey and Persian, are extremely small. On the spot the market is decidedly firmer, the quotation for Turkey druggists' being from 12s. 9d. to 13s., and Persian at from 11s. to 14s. per lb.—Writing on May 22, a Smyrna correspondent confirms what was stated in our last issue in regard to the more or less abundant rains, which have practically obviated the danger from drought. The sales, as already notified, amount to 68 cases, comprising 60 cases "primo" Karahissar at 112 piastres, equal to 12s. 4d. per lb. or 28½m.; three cases "extra" at 116p. to 117p., or 12s. 10d. to 13s., to 29½m. to 30m.; and five cases inferior Adette at 96p. to 97p., or 10s. 9d. to 10s. 11d., or 24½m. to 24¾m. The quality actually sold at 112p. was "primo" Karahissar, and not "extra," the price of which is 119p. So long as the United States continues a buyer, prices will continue to rise, or at least will remain firm, which is regrettable, as this is now the period for laying in stock—a costly matter in view of the present high prices.

Writing on May 28, a Smyrna correspondent reports a quiet week, sales amounting to only six cases extra Karahissar at 12s. 8d., and some ten cases low grade at 10s. to 10s. 6d. Market continues firm and strong, with no inclination to offer any concessions on prices already established. American buyers, however, have withdrawn from the market, and unless they respond to the present higher pretensions of holders it is difficult to see how prices can be maintained. Regarding the new crop, the news is that rain is required again in the upper districts, but on the whole there is nothing alarming, and according to all accounts the outturn may exceed 7,000 cases, including 800 from Salonica. The arrivals to date amount to 2,068 cases, against 1,387 cases at same period last year.

**OTTO OF ROSE.**—Our Bulgarian correspondent writes on May 28 that the harvesting of the rose-crop is progressing very nicely. It has now been extended over the whole district, and, with the exception of about half a dozen of the highest villages, the distillation has become general. The weather, on the whole, has been rather favourable for the distillation during the course of the week. While we have had no general and abundant rainfalls, there have been partial showers almost every other day in different parts of the districts, and they have helped to keep the atmosphere cool and fresh. The yield of otto in consequence has been very satisfactory and of extremely fine quality. Already an average crop is assured. Should the weather during the coming fortnight continue to favour the harvest, the crop will be a success.

**PEPPER.**—Dearer. A large business has been done in Singapore black, including May-July and June-August shipments at from 3½d. to 3¾d., July-September and August-October at 3d. to 3¾d. c.i.f. d/w. Fair Singapore is firm at 3¾d. spot. To-day 50 tons Jan.-March sold at 3½d. c.i.f.

**PEPPER (WHITE)** is also dearer, fair Singapore offering on the spot at 5¾d. For arrival a good business has been done, the sales including May-June at 4½d., June-August shipment at 4½d. to 4½d., August-October at 4½d. to 4½d., and September-November at 4½d. c.i.f. d/w.

**PLATINUM.**—The Commission appointed by the Russian Government to regulate the platinum industry has (says the *Financial News*), in conjunction with representatives of that industry, drawn up a scheme for the formation of a compulsory syndicate. In connection with this scheme, the exportation of unrefined platinum is to be prohibited, its production is to be regulated by law, and credit is to be allowed by the State Treasury until the export trade in that article to foreign countries shall have become more favourable.

**POTASHES.**—The demand is quite retail, on the basis of 35s. 6d. for first Montreal, 34s. 6d. for seconds, and 34s. 6d. for first American.

**QUININE** is unaltered, and the business done is quite unimportant. Second-hand holders quote from 6¾d. to 7d. for the usual brands of German sulphate, 6¾d. for Amsterdam, and 6¾d. for Java for prompt shipment. At the auction of quinine held by the Amsterdam factory on June 1 1,417½ kilos. Ed. II. sulphate were offered and sold at an average price of 10.56½fl. per kilo., as compared with the same price paid at the last auction. A similar quantity will be offered on June 18. The British Consul for Java states in his annual report that in 1908 the quantity of quinine sulphate disposed of at auction and privately in Batavia was 1,280,000 oz. (average price 6¾d.), against 1,205,042 oz. (average price 6¾d.) in 1907, and 916,561 oz. (average price 7¾d.) in 1906. The landings in London during May amounted to 84,992 oz., and the deliveries to 84,000 oz., leaving a stock of 3,324,512 oz., against 3,340,976 oz. in 1908.

**SHELLAC.**—The market has been under the influence of the holidays, and only small sales have been made, including TN on a basis of 65s. to 66s. for fair free, and for A. C. Garnet 62s. c.i.f. has been paid for October-December shipment. For June-July shipment TN there are buyers at 63s. c.i.f. Futures are lower; about 1,500 cases reported as having changed hands, including August delivery at from 69s. to 65s. and December at from 72s. to 67s. 6d. The shipments from Calcutta during May show a comparative increase of 12,600 cwt., the total being 42,500 cwt., against 30,500 cwt. last year.

**TONKA-BEANS.**—The exports from Ciudad Bolivar during 1908 amounted to 28,221 kilos., valued at 3,467l., against 12,426 kilos., valued at 1,202l., in 1907.

## Commercial and Produce Notes.

### Soudan Acacia.

The Soudan Economic Board has just issued a report on its first year's work. Acacia gum is one of the most important items of export from the Soudan and accordingly the Board has devoted a good deal of attention to it, with a view to facilitating and extending trade. As a result of dredging in the Nile bed at Dueim, the principal gum port on the White Nile, the cost of portage has been reduced, while a gum market has been made at the same place, and all brokers there are now licensed. The road-tax, weighing-fees, ground rent, etc., formerly charged separately, have been consolidated into a single tax at so much per kantar of gum, and consideration is also being given to the possibility of reducing these charges. A covered enclosure for gum has been erected in Khartoum, new wells are being dug in Kordofan, so that gum-collectors can go further afield, and it is proposed to construct a telegraph-line from Dueim to Taira, one of the chief gum-producing districts.

The scientific side of the gum industry is also being looked after, and experimental sowing of trees has been undertaken in Senaar, and analyses of gum-crops appear to be regularly made in the Gordon College laboratories. Certain specially strong varieties of "hashat" and tall gums have been discovered, and inquiry is proceeding as to whether these are obtainable in commercial quantities. Importers in the United States and Europe have notified the Board that they would like a cleaner gum than "ordinary Soudan sorts," and with a view to meeting this demand a gum-cleaning machine has been erected at Omdurman. Some manufacturers would, we believe, welcome also gums of more uniform colour than Soudan "sorts," if these could be put on the market at rates not greatly exceeding those obtained for Soudan "sorts." All this shows that the authorities are alive to the importance of the gum trade, and that they intend to maintain, and if possible improve, the hold that Soudan gum now has on the market.



For the first time since the reconquest of the country the durra crop (*Sorghum vulgare*) has exceeded the local requirements, and a proposal for using durra as a source of alcohol is under consideration. The castor-oil plant grows like a weed in many parts of the country, and efforts are being made to interest European firms in this product.

### Tyne Chemical Trade.

The annual report of the Newcastle and Gateshead Chamber of Commerce states that the output of chemicals on the Tyne has been maintained. Bleaching-powder continues in demand, though the price of 4*l.* 10*s.* per ton, or thereabouts, by reason of severe competition, is far from satisfactory to makers. Caustic soda (76 to 78 per cent.) gives great satisfaction to consumers generally. Owing to depression in the glass and other industries sulphate of soda has fallen somewhat in consumption, and the price has receded to 28*s.* per ton. Soda crystals are in good demand. The consumption of sulphuric acid continues to grow with the increased demand on the part of the new patent coke ovens. Plant for the production of refined alumina is in course of erection at Hebburn-on-Tyne.

### Coffee sine Caffeine.

Mr. T. Lough, M.P., presiding on May 25 at the meeting of the Tower Tea Co., Ltd., said that the object of the Lifebelt Coffee Co., a prospectus of which had been sent to the shareholders, is to work in the United Kingdom and throughout the British Empire certain ingenious patents by which German chemists have achieved the extraction of caffeine from coffee in the green berry without injuring the coffee. Thus two great objects are secured. In the first place, the most valuable product, caffeine, which is well known in the Pharmacopoeia, is obtained, and there is a ready sale for this alkaloid. In the second place, the noxious quality in coffee, which causes sleeplessness and many other affections which coffee drinkers suffer from, is entirely removed. The sale of the coffee in Germany, which it has been offered for some two years, has achieved large dimensions.

### Java Cinchona.

Mr. R. L. Clute, of the Bureau of Agriculture, Philippine Islands, publishes in the October number of the "Philippine Agricultural Review" some interesting observations on a recent visit to Java, during which he inspected the Government cinchona plantations. He briefly describes the methods of planting and harvesting, which begins in two years after the trees are transplanted from the nursery beds, and is kept up indefinitely. Trees are not usually allowed to grow for a longer period than five years. In the first year one lower branch as large as one's thumb is removed; second year, the second branch is removed; third year, every other tree is removed; fourth year, other trees are removed, replanting begins; fifth year, the largest trees are removed and replanting continues. Mr. Clute states that the Bandong Quinine-factory uses about one-tenth of the Government bark, and that the manager of the plantation has recommended to the Government that a factory be established on the plantation in order to avoid transport. Cinchona is easily grown, provided suitable soil conditions, elevations, and rainfall are present, and the tree has few insect pests. Two thousand natives are employed on the Government estates, the men receiving about 20*c.* and the women about 12*c.* as a daily wage.

### Spices in French Colonies.

A recent number of "L'Agriculture Pratique des Pays Chauds" summarises the information available regarding the cultivation and production of spices, condiments, and aromatics in the French Colonies. The world's production of pepper is given as 40,000 metric tons per annum, of which the Dutch East Indies are said to furnish 5,000 and Indo-China from 3,000 to 5,000 metric tons. Until quite recently Indo-China produced only black pepper, but lately the preparation of the white variety is stated to have been undertaken successfully. The French vanilla-producing centres are given as French Congo (77 kilos. in 1905), Madagascar (41 metric tons in 1906), Réunion (75 metric tons in 1905), Mayotte (rose from 1 metric ton in 1901 to 200 in 1903, falling to 76 in 1904), New Caledonia (56 kilos. in 1905), Tahiti (120 tons in 1905), Martinique (200 to 500 kilos. per annum), Guadeloupe (8 tons in 1906). The annual supply of nutmegs is put at 1,500 tons, to which Martinique, alone of the French Colonies, contributes and that only to the extent of a few kilos. (72 in 1904). To the trade in cassia bark French Indo-China contributes from 200 to 300 metric tons per annum, most of which goes to France. The world's annual consumption of cassia bark is put at 5,000 metric tons, mostly supplied by China and imported into Europe *via* London or Hamburg. The production of cloves in S. Marie, a small island near Madagascar, has increased considerably in recent years, and reached the record figure

of 109 metric tons in 1906. In Réunion, on the contrary, production fell from 828 metric tons in 1894 to two in 1900, since when export has ceased. From Martinique about 50 kilos. are exported annually, and from Mayotte about 1,500 kilos. Cardamoms are produced to a small extent in Indo-China, and are exported to China, but the trade is very variable (547 metric tons in 1903; 141 metric tons in 1905).

### Nyasaland Chillies.

In the course of an interesting report on recent agricultural developments in Nyasaland, submitted to the Governor of the Protectorate by Mr. S. Simpson, who was appointed Government cotton expert in 1905, it is stated that the area under chillies in Nyasaland fluctuates very much, but it is a good secondary product, especially where there is ample labour at picking time, as this operation is tedious and expensive. The exports from Nyasaland for the past five years have been as follows:

Year	Crop exported to March 31 lb.	Acreage under cultivation	Value £
1904	66,350	725	1,064
1905	79,423	627	1,323
1906	22,280	161	338
1907	6,336	147	105
1908	32,419	168	540

The 168 acres under cultivation in 1908 give an estimated crop of 29½ tons or 66,080 lb. to March 31, 1909—figures approaching the 1904 crop. In regard to the cotton industry, to which the bulk of the report is devoted, Mr. Simpson remarks that it is on a sound commercial basis and thoroughly established.

### Belladonna Cultivation in U.S.A.

In the "American Journal of Pharmacy," Mr. J. A. Borneman recounts his experiences with the cultivation of belladonna in Philadelphia. During the fifteen years in which he has been cultivating belladonna, this plant has been found to be the easiest of all imported medicinal plants to grow. Difficulty was encountered at first in getting plants from the seed, due to the inferiority of the seeds imported from Europe, and planting too deep in the soil. Success was finally obtained by sowing under a cold frame and transplanting the seedlings. By the middle of June the plants reach the height of about twenty-five inches, and by the middle of July bear a large number of flowers. Two crops of leaves can be obtained in one season, the first about the end of July, the second the latter part of October. If the roots are not wanted they are left in the soil until the latter part of October, when they are taken up and buried in a shed to protect them from frost. One of the roots often yields from four to six rootlets that can be used for propagation. In this way the author finds that it is not necessary to propagate from the seed at all. The plants which are raised from the roots direct sometimes reach a height of about sixty-five inches if the season is neither too dry nor too wet. The yield from a quarter of an acre last year was 1,800 lb.

### Chinese Antimony.

Writing in regard to the trade of Changsha for 1908, H.M. Consul reports a considerable increase in the exports of crude antimony and a decrease in the exports of ore, the figures being as follows: *Crude*, 1906, 47,502 cwt.; 1907, 35,013 cwt.; 1908, 119,119 cwt. *Ore*, 1906, 45,427 cwt.; 1907, 61,843 cwt.; 1908, 17,060 cwt. The local notables who control the antimony works are in touch with London and are kept fully informed as to the prices ruling in London. The Consul reports that the shipments of ore will probably continue to decrease owing to the erection of new machinery and the more perfect handling locally of the ore, and that the export not only of crude but of refined regulus antimony will steadily increase. The increase in the export of crude the Consul attributes to the presence of a foreign buyer in Changsha. The old difficulty still exists of inducing sellers to realise the binding nature of a contract, but constant personal contact between the native seller and foreign buyer may eventually remove this obstacle. Crude in Changsha sold at between 10*l.* 13*s.* 4*d.* and 11*l.* 6*s.* 8*d.*, and ore at from 4*l.* 13*s.* 4*d.* to 6*l.* 13*s.* 4*d.* It is hoped with new machinery to produce refined antimony containing at least 99.60 per cent. and possibly 99.80 per cent. pure. The relative value of refined to crude will be about 26*l.* 13*s.* 4*d.* to 10*l.* 13*s.* 4*d.* During the past few years the ore has been so crudely smelted that waste ashes have been found to contain 30 per cent. antimony. Many thousands of tons of such ashes have from time to time been thrown away and money has been made by at least one enterprising foreigner, who bought up all the ashes he could. This form of speculation is, however, now at an end. A Hunan student in Paris bought new plant and engaged the services of two French engineers to proceed to Changsha to supervise its erection. This was completed towards the close of 1908, and it is hoped with this new machinery to produce the refined antimony mentioned above.





**TO CORRESPONDENTS.**—A letter for publication should always be a distinct communication; nothing else should be mixed up with it. Each query—no matter whether legal, dispensing, or general—should stand by itself, and the paper upon which it is written should always be backed with the shop stamp. We do not undertake to reply to queries by post. Write clearly and concisely on one side of the paper only. All communications should be accompanied by the names and addresses of the writers. Publication of letters does not imply our agreement with them. Letters received after Wednesday morning cannot as a rule be dealt with in the current week's issue.

**BUSINESS INFORMATION.**—We supply by post (when a stamped and addressed envelope is provided) information as to the makers or agents for articles connected with pharmacy and the chemical and drug trades. Inquiries regarding any articles which cannot be traced are inserted under "Information Wanted."

#### Chemist Extractors.

SIR,—I should be pleased to subscribe to the association for protecting chemists' interests in the extraction of teeth, which I have practised for over twenty years.

Yours truly,

W. A. SAVILL.

Hove.

SIR,—I shall certainly support any scheme for the protection of chemist extractors, and I am sure there are hundreds in the country who will do the same. I intended writing to support "J. L. S." earlier, but it was a case of procrastination, and I expect that is so with many others. I trust the postcards asked for will come in with a rush—to show that we mean business.

J. O. S. (62/24.)

SIR,—As a chemist extractor of twenty-four years' standing, I should like to endorse the opinions of your several contributors in the *C. & D.* correspondence columns of last week's issue. The B.D.A. are certainly getting rather too far in their efforts to suppress the dental practice of chemists, who in very many cases, as one of your correspondents suggests, are far superior in their work to the gentlemen who can flout their L.D.S. Why a chemist, who has carried on his dental practice for the past ten or twenty years, and to the entire satisfaction of his patients, should not be allowed to use the two words "Painless Extractions" I have yet to comprehend. It is quite time, in view of the many farcical prosecutions which have recently been instituted by the B.D.A., that we had an association to protect our interests, and I think that the difficulties that may present themselves at first sight would soon be overridden, if all chemists interested would combine and make arrangements to hold a meeting—time and place to be decided by vote if desirable—when a secretary and directors could be elected. I shall willingly subscribe to such an association, as, I feel sure, would many others if we could once make a start on a sound basis.

Yours truly,

Mansfield, May 29.

S. A. K. (62/6.)

SIR,—I have carefully read the whole of the letters and correspondence which have appeared in your paper respecting the above subject. I might say that I have extracted teeth and fitted artificial ones for many years, and I quite agree with your correspondents that a society well organised would be greatly to our advantage. Notwithstanding the partly reversed decision *re Barnes v. Brown*, we never know what we may have to contend with in the future. I quite agree with your correspondent "W. G. B." that the greatest difficulties are organisation and the obtaining of sufficient funds. The profits on this work are sufficient, I think, to warrant an annual subscription of, say, one guinea a year. We should, no doubt, have some little difficulties at first to contend with, but if the Editor of the *C. & D.* would be so kind as to

offer us the use of a room, say on some Wednesday afternoon for a couple of hours, and for all who are interested in the matter to attend, and then to talk the matter over together. This would, I think, facilitate matters more quickly and far easier than any amount of correspondence, I feel sure. And for all to attend if possible, and for those who are unable to do so for any reason, to send a letter explaining their views on the subject, and these letters could then be read to those who did attend. By adopting this method we should at once know where we stand on the subject.

I am, yours faithfully,

T. B. F. (61/21.)

[We have a room at 42 Cannon Street in which committee meetings of organisations connected with pharmacy are occasionally held, and are pleased to grant the use of it by arrangement in advance.—EDITOR *C. & D.*]

#### B.P. Committee of Reference in Pharmacy.

SIR,—I am requested by the Committee of Reference in Pharmacy to ask your permission to communicate through the columns of your journal the thanks of the committee to those who have offered criticisms on the committee's report recently published. All such criticisms and suggestions will, in due course, receive the careful attention of the committee. The desire has been frequently expressed that such reports should be published for discussion previous to the issue of the *Pharmacopæia*. The more fully they are criticised, constructively as well as destructively, the more likely is the next edition of the British *Pharmacopæia* to represent the views of British pharmacists and to reflect credit on those who have taken part in the work of revision.

Yours faithfully,

HENRY G. GREENISH,

Secretary to the Committee.

17 Bloomsbury Square, London, W.C., May 27.

#### It Gets There.

SIR,—It may interest you to know that through your mention of my "Knighton Annual," among other applications for a copy I received one this week from a brother pharmacist in the Tasmanian goldfields. Ubiquitous *C. & D.*!

Yours truly,

G. M. PERKINS.

#### Administration of the Poisons and Pharmacy Act.

SIR,—Recent events show that the great advantages expected from the Poisons and Pharmacy Act, 1908, are likely to be more imaginary than real if the clause conveying instruction to licensing authorities to consider the adequacy of existing facilities in their respective districts for obtaining poisons before granting licences is allowed to be interpreted as in the case of London, Liverpool, Manchester, and other places.

Now in these cities, where chemists' shops are only too numerous, can it be supposed, by any stretch of imagination, that there is difficulty in obtaining poisons for agricultural and horticultural purposes? Is the Society going to sit still and see its hardly-fought-for measure interpreted in a way so contrary to the intentions of its framers? Our highly esteemed President, Mr. Rymer Young, has expressed the opinion that the proper way in opposing applications for licences is for local pharmacists to appear in person. That course may have answered very well in cases brought before appreciative men. It was tried in Manchester and signally failed. Some of the licensing authorities seem to be possessed of the idea that pharmacists have a valuable monopoly which it is their duty to smash. They appear unable to distinguish between purely selfish objections and objections on principle. No uncertain measures are of any avail in dealing with these gentlemen. We must say, "You shall not grant licences where sufficient facilities already exist." This means winning a test case. Proceedings must be taken against an authority that has illegally granted licences. I have the opinion of an influential gentleman that this course is quite feasible, in fact desirable, and he is prepared to back his opinion by a subscription of 50% or, if necessary, 100% if the Pharmaceutical Society will take the matter up vigorously. Another matter is one that I have voiced on several occasions. I have repeatedly expressed the opinion



that the divisional secretary should not be expected to perform police duties. In the first place it is *infra dig.*, and in the second it is too great an imposition, and will always be very imperfectly done whilst depending on the spare time and inclination of divisional secretaries, who have quite enough on hand to attend to their own affairs. I advanced this subject at a meeting held in the Midland Hotel at Manchester about two years ago, and was then met with the explanation that local knowledge was essential. How, without assistance, was an inspector, dumped down in a large town, to know in which direction to look for offenders without a hint from those who knew where they were likely to be found? There was reason in this argument before the new Act came into force, but now that the exhibition of the registered man's certificate is provided for, and owners of businesses made responsible for the acts of their servants, there no longer exists sufficient reason why inspectors should not be appointed. Doubtless poverty will be pleaded, but I think it should be insisted upon that provision should be made in the Society's "Budget" for the purpose I have indicated. Let us have some return for our money now. It is all very well attending to the education of future scientists. I do not begrudge that to the extent of our means, but if the means do not extend so far, then some part of the educational scheme may well be relegated to the Universities.

Yours truly,  
Oldham, May 31. HAROLD BAGSHAW.

Remedies for "Sunshine."  
(See *C. & D.*, May 29, p. 843.)

Try sulph. skin-lotion, "P.F.," p. 2.—*John Brooks (Whitby).*

I find a ready sale for the following lotion during the summer months, and think it will prove useful in your case:

Zinci oxid.	...	...	...	...	5ij.
Liquor plumbi subacet. fort.	...	...	...	...	5j.
Glycerin.	...	...	...	...	3ij.
Aq. rosae ad	...	...	...	...	3viij.

Ft. lot. sec. art.

*Percival G. Tremlett (Fratton Bridge).*

#### Competition in Cork.

SIR,—I have read with satisfaction in the current issue of the *C. & D.* of the meeting of the pharmacists and druggists of Dublin, for the purpose of forming a Retailers' Association. Might I suggest, as a County Cork pharmacist (and being so, perhaps an outsider), that the Cork City pharmacists should go and do likewise, as the manner in which prices fluctuate in Cork is a matter of public criticism. I am sure my fellow-pharmacists in the other county towns will bear me out in this, as perhaps they have experienced, as I have, when asking 1s. 8d. for a mixture, to be told that it could be procured at So-and-so's in Cork for 1s. 2d. I have had experience both in Cork and Dublin as to prices, and always priced prescriptions accordingly; so, surely, there must be something wrong somewhere. I am afraid the present competition in Cork will lead to bringing the profession to the level of the ordinary trader. I would ask Mr. Blair, a member of the Council, to take steps to form an Association of this kind in Cork, and I am sure he will get the support it merits.

Yours faithfully,  
W. M. (61/3.)

#### Tr. Ringwood.

SIR,—*Re "A. T. G.'s"* query about tr. ringwood. I use a preparation in very large quantities, the tincture of which is sometimes known under the above fancy name. It is tinct. nuc. vom., and I daresay that it derives the name "ringwood" from the shape of the nut. I have proved the liq. ext. in 1-dr. doses ter in die excellent for "acute paralysis" in cows (pregnant), due, it is supposed, to pressure from within on some of the great nerve-trunks or blood-vessels. I have also found it grand stuff, along with  $\frac{1}{2}$ -oz. doses of chloral hydrate every five hours, in cases of the so-called milk-fever (parturient apoplexy). Nux vomica acts as a powerful stimulating tonic to the nerve-centres and spinal cord; it is invaluable in all cases where tonic treatment is required. I find ext. nuc. vom. liq. the most convenient form for using the drug. The tincture is too expensive, and all the spirit it contains is of little value as a stimulant.

Crumlin, Co. Antrim.

Yours truly,  
F. W. DODDS.

#### Unqualified Management.

SIR.—The new Act requiring every branch shop to be managed by a qualified pharmacist is a dead letter as far as I can see. Proprietors are awaiting developments by the Pharmaceutical Society before going to the expense of getting qualified managers. If the Society wakened up and had a few prosecutions, something after the style of the dental ones, qualified men would run a better chance of engagements.

Yours truly,  
DEKKO. (58/74.)

#### Scent Worms for Trout-catching.

*Pharmaco-Angler* (17/98) writes in reply to a recent query: There are two methods of angling for trout with worm: (1) In clear low water, fishing up-stream, when trout see the worm coming towards them or passing them and rush at it quickly; (2) in flooded water which is more or less muddy or coloured, when fish do not see far from their nose and are assisted in locating food by their sense of smell. Under the former conditions a scented bait is quite unnecessary: under the latter, we think it is useful, although not magical and never-failing. There are references to scents in Walton's "Compleat Angler," Chapters V., VII., and VIII. The suggestions there made contain the first principles of the procedure. Scenting the bait itself has to be very sparingly and judiciously performed. While a scent may attract a trout to a bait, it may have the effect of preventing him seizing it. My own opinion is in favour of scenting the line, not the bait. Oil of ivy and gum of ivy are specially recommended by Walton and old writers. Walton's direction for procuring gum of ivy is as follows:

Slit the largest branch of an ivy tree and it will yield an oleaginous balsam of pleasing odour.

It possesses a strong diffusive odour. This mixed with oil of spike seems to have been greatly in favour. So far as my own experience goes, any strong-smelling scent that is not acrid or repellant puts the trout on the *qui vive*—for example, oils of rhodium, anise, lavender, cumin. They require to be prepared, however, with a basis to make them "last" on the line. A piece of mutton suet ( $\frac{1}{2}$  oz.) with a small piece of resin (30 grains) melted together and the oil or oils added (about 20 minims in the aggregate), and the whole allowed to set, makes quite a good compound. It should be rubbed on the gut cast, beginning three or four inches above the worm, and extending for 18 inches or more, according to depth of water. I cut the cast at the first two knots and retie, leaving the cut ends rather long. When the fat is rubbed against the projecting ends some of it jams in the angle and is held. When a line so scented is swum a time or two through an eddy in dirty water the scent attracts the trout and puts them on the alert for the bait, while the worm itself needs no addition to commend it to their palate. Some anglers add a drop or two of one of the oils to the moss to which the worms are to be transferred in the fishing-bag before setting out for the day.

#### Australian Honey.

SIR,—In view of the present scarcity and high price of English honey it would be interesting to know the experience of some of your readers on the Australian honey which has been so extensively boomed lately. My own experience with this honey has not been very satisfactory. Attracted by the advertisements, the appearance, get-up, and, above all, the price (retail  $7\frac{1}{2}$ d. per lb., glass jar included), I made a purchase, but a peculiar taste and smell somewhat surprised and puzzled me for a time, until I ascertained that it was owing to the flavour of eucalyptus, on which the bees evidently partly feed. I do not find that everyone has the same objection to this flavour, but personally I could not enjoy honey with this peculiar flavour as an article of diet, though I do not doubt that it might even add to its efficiency when used as an ingredient in cough mixture, etc. I should be glad to know if this flavour is general or only occasional. No doubt honey is a most valuable article as food and medicinally, and should be more to the front on the chemist's counter than it is.

Yours faithfully,  
Sutton Coldfield. WM. BOUSFIELD.

[We cannot detect either odour or taste of eucalyptus in the sample which our correspondent sends to us, but there is an odour which differs from that of English and other



honeys familiar in this country, and the after-taste is slightly acid. The peculiarities of the honey are well known, and were referred to (as regards Victorian honey—the sample sent is South Australian) in a note in the *C. & D.* of February 6, p. 241.—EDITOR *C. & D.*

#### Appreciations from "C. & D." Subscribers.

"I always look for the *C. & D.* at week-ends," writes a pharmacist and traveller (155/09).

"I am very pleased to be able to give you this information, and hope it will be useful, as you have been good enough to assist me on a previous occasion." (21/36.)

"I thank you for courtesy of your direct and prompt reply *re* makers of —. I have been a subscriber to your paper for a good many years, and this is the first time I have taken advantage of your columns—now I know to my loss in the past." (22/8.)

#### Legal Queries.

Before submitting questions for reply in this section please refer to the "*C. & D. Diary, 1909*" for the following subjects: Income-tax, p. 220; Pharmacy Law and Poisons, p. 216, (abroad) p. 211; Spirit Laws, p. 229; Stamped Medicines, p. 221; Trade-marks, p. 194; Wines, Sale of, p. 231; and Legal matters generally, p. 233.

*D. J.* (61/73).—We only reply to subscribers or their staff. If you were to consult a lawyer in regard to the matter you write about he would charge you a guinea or two. Can you advance any reasonable argument for our saving you that?

*A. F. B.* (61/37).—Liquid preparations containing more than 3 per cent. of carbolic acid are scheduled poisons; those containing less are not. See our Poisons Schedule Card, a copy of which you can obtain post free from our office for 6d.

*Perplexed* (63/35).—As a registered chemist and druggist you cannot carry on business as such in more places than one without a registered chemist as manager of each premises. This fact has frequently been stated in these columns and reasons given for the belief that the mere disuse of the title "chemist and druggist" does not in the case of a registered chemist free him from the new statutory requirement as to qualified managers.

*Midlander* (62/1) writes: "Since under the new Poison Act unqualified persons are enabled to retail horticultural and agricultural poisons in sealed packages, does the same rule apply to chemists stocking these preparations—viz., can they be sold by an assistant who is unqualified, if handed out in the same way—that is, in original sealed packages only?" [An unqualified assistant may continue to sell under the supervision of a qualified person.]

*Pitule* (63/31).—The Pharmaceutical Society (G.B.) requires from Minor candidates evidence that they have been practically engaged in the translation and dispensing of prescriptions for three years (not that they have been apprenticed three years). The experience which you are now obtaining conforms with the regulation, apparently, and when necessary the qualified manager or any other registered chemist may certify your declaration.

#### Miscellaneous Inquiries.

We endeavour to reply promptly and practically to trade questions of general interest, but cannot guarantee insertion of replies on a particular date, nor can we repeat information given during the past twelve months. A preliminary condition for reporting on samples submitted is that all particulars as to source and uses are given to us.

*W. D.* (26/44).—Red-thyme oil is a natural product. The colour is due to contamination with iron.

*G. H.* (46/48).—TONING PRINTING-OUT-PAPER WITHOUT GOLD. The sulphide toning process answers well, and the resulting prints are as permanent as when gold is used. Slightly overprint and place the prints for ten minutes in a bath of

Sodium carbonate	...	...	1 oz.
Sodium chloride	...	...	1 oz.
Water to make	...	...	20 oz.

Then fix and wash thoroughly. Next place for fifteen minutes in the toning-bath, which is made as follows:

Sodium sulphide	...	...	5 gr.
Water	...	...	2 oz.

*S. R. F.* (41/40).—EGG-FLAKE for birds is prepared by squeezing hard-boiled egg through wire-gauze.

*A. J. V.* (38/6).—Information on optical education can be had by consulting the Educational Number of *THE CHEMIST AND DRUGGIST* (August 15, 1908), or in fuller detail in "*The Chemist-Optician*" (*C. & D.* Office, 4s.).

*F. M.* (41/14).—The shampoo-powder is perfumed with a mixture of synthetic perfumes, such as terpineol and coumarin. These do not change on contact with alkalis.

*L. & Co.* (18/5).—OX-GALL SOAP.—There is a formula for this in "*Pharmaceutical Formulas*." The following are other recipes:

Fresh ox-gall	...	...	10 oz.
Powdered borax	...	...	$\frac{1}{2}$ oz.
Powdered sugar	...	...	2 oz.
Powdered castile soap	...	...	4 oz.
Venice turpentine	...	...	3 dr.

Evaporate the ox-gall to 2 oz. and add it to the other ingredients previously mixed. Then form into cakes.

#### Liquid Ox-gall Soap.

Ox-gall soap	...	...	5 oz.
Fresh ox-gall	...	...	20 oz.
Glycerin	...	...	10 oz.
Solution of ammonia	...	...	$\frac{1}{2}$ oz.
Oil of turpentine	...	...	5 min.

Mix.

These soaps are employed for cleansing silks and satins.

*J. E. M.* (Cairo) (4/49).—(1) *RUHEMANN'S URICOMETER* is an instrument devised for the purpose of making a rapid estimation of uric acid in urine. It cannot be considered scientifically accurate, but is a compromise between a long and tedious process which may be more correct and a purely rule-of-thumb method. Its principle is a volumetric determination by means of a standard solution of iodine. A definite quantity of the iodine solution (iodine 0.5 gm., potassium iodide 1.25 gm., absolute alcohol 7.5 c.c., glycerin 5 gm., distilled water to 100 c.c.) is used, and the urine is added until all the iodine is discharged, the uric acid being indirectly oxidised by the iodine. The end of the reaction is indicated by adding a few drops of carbon bisulphide, which is tinged by the iodine so long as any remains unacted upon. The whole process is conducted in a specially constructed and graduated tube as follows:

Carbon bisulphide is added until the lower plane of the meniscus reaches the mark S. Next add the standard iodine solution until the upper plane of the meniscus reaches J. Now add the specimen of urine carefully until the colour of the iodine and urine mixture nearly resembles the original colour of the urine, which is kept at hand for comparison. This is as far as the reaction can be carried without the assistance of the indicator. The stopper is now inserted and the tube is shaken, when it should be found that free iodine still remains and is made evident by the carbon bisulphide being coloured thereby.

A further cautious addition of urine and agitation will gradually reduce this colour until the faintest pink tint only remains. The test is now finished, and the quantity per 1,000 of uric acid present is read off on the level of the liquid in the tube.

In case of a sample containing very little uric acid, there is provision in the instrument for employing half the standard iodine solution by means of a graduation mark between S. and J., water being added to bring the volume up to J. The result must in such cases be divided by two. If the urine is albuminous, the albumen should be coagulated by boiling and be filtered, and the test applied to the filtrate. Alkaline urines should be acidified with dilute acetic acid. (2) With regard to your query about *ESBACH'S ALBUMINOMETER*, you must in the first place bear in mind that it is not a scientifically accurate method of analysis, and makes no pretence to be. It is merely a clinical guide, and for medical work is extremely useful. It is a measure of the bulk of the coagulum produced in an albuminous urine by a solution of picric acid, and the graduations are made to indicate, as nearly as may be, parts per 1,000 of dried albumen. The discrepancy between your figures when you tested the accuracy of the instrument with an artificial solution of albumen of known strength is very striking, but you must remember that the albumen of urine is a very complex substance, or more probably mixtures of substances of variable quantities, and will not bear comparison with albumen derived from other sources. The albuminometer is not an accurate instrument, and your albumen powder is not a fair test. (3) *BOOKS ON BACTERIOLOGY*.—We think you could not do better than obtain Prof. Hewlett's "*Manual of Bacteriology*" (Churchill), or Muir and Ritchie's "*Manual of Bacteriology*" (Pentland), both of which are good.

*G. W.* (45/63).—BENT LEGS IN CHILD OF TWO.—The condition is obviously due to "rickets," and rickets is a disease



in which the new bone formed is soft. It is due to the child having lived during infancy in unsuitable hygienic conditions—absence of a sufficiency of fresh milk, want of sunshine and fresh air, and, according to the most recent experiments with puppies, to want of proper exercise of the limbs (many infants are so tightly wrapped up that they cannot use their limbs at all). The indications in the present case are to see that the child has plenty of fresh air and exercise and plenty of good plain food, in which fresh milk, raw beef juice, and underdone, finely-minced meat should play an important part. At the same time, it should not be allowed to be much on its feet, especially if a heavy child, as this will tend to a further bending of the soft bones. The bones will not now become straight, but may be prevented from becoming more crooked by following the simple treatment laid down. Further growth on correct lines will tend to minimise the deformity, but if this is great it can be corrected by the simple operation of osteotomy. Cod-liver oil is of doubtful utility. If medicine must be given a placebo is indicated.

**IV. D. (26/44).—LINOLEUM-POLISH.**—The furniture-paste without colouring-matter (see reply to "Smilax") is a good linoleum-polish, but beeswax and turpentine (5 oz. to 1 pint) is considered the ideal preservative. Several recipes are given in "Pharmaceutical Formulas."

**Sapo (38/66).—AMMONIA SOAP.**—There are recipes for this in "Pharmaceutical Formulas," but we gather that you require the ammonia soap to be as free from water as possible. The following is a method which was patented some years ago:

Fatty acids	...	...	28 parts
Ammonium sulphate	...	...	70 parts
Sodium carbonate	...	...	7 parts
Water	...	...	4 parts

If it is only a jelly form that is required, this is obtained by adding sodium oleate to ammonium oleate prepared by mixing

Oleic acid	...	...	1 part
Spirit	...	...	2 parts
Solution of ammonia	...	...	14 parts

**Smilax (47/11).—(1) FURNITURE-PASTE:**

Beeswax	...	...	1 lb.
Ceresine wax	...	...	1 lb.
White soap	...	...	1½ lb.
Water	...	...	2½ pints
Oil of turpentine	...	...	2½ pints
Alkanet-root	...	...	4 oz.

Macerate the alkanet-root in the turpentine for a week and strain. Melt the waxes and add the turpentine. Dissolve the soap in the hot water and add the wax solution, stirring constantly till cold.

Several other recipes will be found in "Pharmaceutical Formulas."

**(2) FURNITURE-CREAM:**

Castile soap	...	...	2 oz.
Yellow wax	...	...	1 oz.
White wax	...	...	1 oz.
Oil of turpentine	...	...	16 oz.
Boiling water	...	...	6 oz.

Melt the waxes on a water-bath and add the turpentine, stirring until the mixture is quite liquid. Separately dissolve the soap in the boiling water and pour the two mixtures simultaneously into a hot earthenware jar. Stir for five minutes and pour into wide-mouth bottles for sale.

**Belgravia (42/47).**—The lead-lined cistern which has become porous can be painted on the inside to improve matters. It would be better, however, to replace it by a zinc cistern. This would hardly cost more than lining it with galvanised iron, and would be much more effectual.

**J. K. (48/42).**—(1) Refer to bibliography in the *C. & D. Diary* 1906 for list of BOOKS ON RADIOGRAPHY. Since then there have been published Bruce's "System of Radiography" (15s., Lewis) and new editions of some of those given in the bibliography. (2) We note your remarks about "certificates of qualification" and poison-licences.

**Santonin (55/46).**—No statistics are available of the number of persons who have died in Great Britain during the past twenty years as a consequence of taking medicine dispensed by medical practitioners or their unqualified assistants, except those given by Mr. T. H. W. Idris in his presidential address to the British Pharmaceutical Conference in 1903 (see *C. & D.*, August 1, 1903, p. 217). In five years (1899-1903) seventeen such fatalities were investigated in England and Wales. For full particulars see the issue referred to.

**Inquirer (58/42).**—"Candy" is a generic term used in the United States for all kinds of sweetmeats. Any of the confectioners who advertise in the *C. & D.* can supply you with what you want.

## Trade-marks Applied For.

Objections to the registration of any of the undermentioned applications should be lodged with Mr. Temple Franks, Comptroller-General of Patents, Designs, and Trade-marks, at the Patents Office, 25 Southampton Buildings, Chancery Lane, London, W.C., within one month of the dates mentioned. The objection must be stated on Trade-marks Form No. 7, cost £1, obtainable through any money-order office. The figures in parentheses refer to the classes applied for.

(From the "Trade-marks Journal," May 19, 1909.)

"P. D. M.," and label device; for peptonised diastase maltose (42). By R. H. Russell, 19 Eastcheap, London, E.C. 311,546.

"KLARISENE"; for all goods (48). By A. Britenall & Co., 11 Tabley Road, London, N. 311,231.

"MAZARA"; for all goods (48). By Denison, Ltd., Moore Street, Sydney, Australia. 312,210.

"PEEKABO"; for soaps and perfumery (48). By Charles Midgley, Ltd., 17 St. Ann's Square, Manchester. 312,455.

"VINCIT"; for adhesive cement (50). By Vincit Co., Ltd., 67 Aldersgate Street, London, E.C. 311,970.

(From the "Trade-marks Journal," May 26, 1909.)

"MANUL"; for chemicals (1), machinery (6), and instruments (8). By Max Ullmann, Thalstrasse 16, Zwickau. 311,554, 311,556.

"MERZO"; for a disinfectant (2). By Mersey Chemical Co., 116 Chestergate, Stockport. 311,688.

"UNXLD DISINFECTANT," and label device; for disinfectants (2). By Phillips Bros., 120 Southwark Street, London, S.E. 312,037.

"NITRO-BACTERINE"; for soil inoculators (2). By W. B. Bottomley, 35 Downside Crescent, London, N.W. 312,550.

"TURNSTILE FLY COIL," and picture of turnstile; for a sticky fly-paper (2). By Ford, Shapland & Co., 6 Great Turnstile, London, W.C. 312,669.

"SANGO"; for medicinal chemicals (3). By A. Landsberger, 56 Unter den Linden, Berlin. 309,451.

"LACTILLIN"; for a biological product (3). By Willows, Francis, Butler & Thompson, Ltd., 40 Aldersgate Street, London, E.C. 312,629.

"FOURACRES"; for medicinal chemicals (3). By H. Hargreaves & Co., 90 Northgate Street, Gloucester. 312,629.

"OUTAPLI"; for obesity cures (3). By C. H. Taylor, 7 Willow Grove Road, Leeds. 312,778.

"PREMIRA"; for medicinal chemicals (3). By Warrick Bros., Ltd., 6 Nile Street, London, N. 312,816.

"SALTEEN"; for a medicine (3). By M. B. Bloom, 51 Bedford Street, London, W.C. 311,263.

"OLIFREDA"; for all goods (3). By Shaw Remedies, 89 Farringdon Street, London, E.C. 312,355.

"PISO'S CURE," and label device; for medicines for coughs, colds, etc. (3). By Piso Company, Warren, Pennsylvania, U.S.A. 312,395.

"ESPINOL," and label device; for medicated soap and ointment (3), and for perfumery (48). By Robinson Bros. & Co., First National Bank Building, Portland, Cumberland, Maine. 309,315, 310,791.

"VELONITAN"; for vegetable substances (4). By McArthur Marenti Valonea Extract Co., Ltd., Tower Building, Water Street, Liverpool. 310,540.

"YELVA"; for indiarubber sponge substitutes (40). By Julius Rente, 69 Sebastian Strasse, Berlin, S. 14. 311,972.

"FRY'S PURE BREAKFAST COCOA," and label device; for cocoa (42). By J. S. Fry & Sons, Ltd., 25 Union Street, Bristol. 311,088.

"VITTEL," and label device; for natural mineral water (44). By Société Générale des Eaux Minérales de Vittel, Vosges, France. 309,458.

"VICHY," and two label devices; for mineral waters (44). By La Compagnie de l'Établissement Thermal de Vichy, 24 Boulevard des Capucines, Paris. 312,342, 312,343.

"NYMPH" and "FOUR COURTS"; for all goods (47), and for perfumery, etc. (48). By Thomas Kerfoot, Oldham Road, Bardsley. 311,749, 311,750, 311,945.

"MAGBEL"; for perfumery, and shaving and perfumed soaps (48). By J. G. Dodd, 10 St. John's Lane, Liverpool. 312,258.

"DENALBO," and label device; for tooth-powder (48). By L. F. Sandeman, 83 Bishopsgate Street Without, London, E.C. 312,494.

"PLATE-O," and bust of Plato, with words "Leamington Silver Soap"; for a polishing soap (50). By E. E. Adams, 6 Eastnor Grove, Leamington. 309,507.



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DOLORINE	....	....	2/9	RUDOK	....	....	2/9 & 4/6
HEADACHE GRANULETS	....	1/1½		RUDOK TABLETS	....	....	2/9
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4 doz.	...	...	9/9 "						

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**Pil.** Aperient (Little) (Aloin, Jalapin, aa. gr. 1-10; Podophyllin gr. 1-5; Ext. Hyoscy., Ext. Nucis Vom., Capsicin, aa. gr. 1-20) .. 2d. per gross.  
**Pil.** Back and Kidney (Oval) Gelatine-coated (Ext. Duchu, Ext. Uvae Ursi, Pulv. Capsici, aa. gr. ½; Ol. Juniper., ℥ ½; Pulv. Pot. Nit., gr. j.; Podophyllin, gr. ½; Tereb. Venet., gr. ½) .. 7d. per gross.  
**Pil.** Castor Oil (Ol. Ricini, gr. ½; Pot. Sulph., gr. 1½; Pulv. Rhei, gr. ij.; Sapo Hyspan., gr. ½; Ol. Crotonis, gr. 1-16) .. 2d. per gross.  
**Pil.** Calcii Sulphid., gr. ½, ¼, 1, or 1 .. 2½d. per gross.  
**Pil.** Coloc. Co., B.P. .. .. 5½d. per gross.  
**Pil.** Coloc. et Hyoscy., B.P. .. .. 5½d. per gross.  
**Pil.** Dandelion and Camomile (Ext. Taraxaci, Ext. Anthem. Pulv. Rhei, aa. gr. j.; Pulv. Zingib., Pulv. Aloes Barb., aa. gr. ½; Ol. Carui, gr. ½) .. 2½d. per gross.  
**Pil.** Ferri Co., B.P. .. .. 9/6 per 100 gross.  
**Pil.** Gout and Rheumatic (Ext. Colchici Acet., gr. ss.; Pil. Hydrarg., Pil. Rhei Co., Ext. Hyoscy., aa. gr. j.) .. 7d. per gross.  
**Pil.** Ipecac. et Scillæ, R.P. .. .. 3d. per gross.  
**Pil.** Neuralgic (Quinell, Ferri Sulph., aa. gr. ½; Ext. Bellad., gr. ½; Ext. Colchici Acet., gr. ½; Hyoscy., Camphore, aa. gr. j.) .. 8d. per gross.  
**Pil.** Podophyllin (Podophyllin gr. ½; Ext. Coloc. Co., gr. ½; Pulv. Aloes Socot., gr. j.; Pulv. Scammon., gr. ½; Sapo Hyspan., Ext. Hyoscy., Gingerine, aa. gr. ½) .. 5d. per gross.  
**Pil.** Quinine, gr. j. .. .. 5½d. per gross.  
**Pil.** Quinine, gr. ij. .. .. 9d. per gross.  
**Pil.** Rhei Co., B.P. .. .. 2d. per gross.  
 Stomach and Liver Beans (Oval) Gelatine-coated, same Formula as Pil. Aper., but with 1 gr. Calomel in each Bean .. 5d. per gross.

Minimum quantity, 5 × 10 gross tins, which may be assorted, with the exception of Pil. Ferri, B.P. All Pills Pearl-coated unless otherwise indicated. No extra for coloured coatings.

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*Acid Acet. Glacial, 99%, Carboys 144 l's. @ 4½d. lb.; 126-lb. bots. @ 6½d. lb.; 6 lbs. @ 8d.	Chloral Hydras Cryst. B.P., 7 lbs. @ 4/5 lb.; 1 lb. @ 4/9 lb.	Gum Benzoin, Sumatra, 84 lbs. @ 1/4 lb.; 7 lbs. @ 1/6 lb.
Acid Acetoxy-Salicyl, 56 lbs. @ 2/1 lb.; 7 lbs. @ 2/3 lb.; 1 lb. @ 2/5 lb.	*Chlorodyne, 5 lbs. @ 1/11 lb.	Gum Catechu, Nig. English Ground, 1 cwt. @ 50/- cwt.; 14 lbs. @ 6d. lb.
" Boric Pulv., 3 cwt. @ 28/- cwt.; 1 cwt. @ 28/6 cwt.; Levigated, 3/- cwt. extra.	*Chloroform, pure B.P., 12 8-lbs. @ 1/7½ lb.; 8 lbs. @ 1/8½ lb.; 6 1-lb. bottles. @ 1/10½ lb.	Gum Guaiac, 1 cwt. @ 10½d. lb.; 28 lbs. @ 1/- lb.
" Carbol Xtls., 39/40; 56 lbs. @ 5½d. lb.; 10-lb. Tins @ 5/6 each; Detached Cryst. 8/- each; 36 1-lb. Bots. @ 9d. lb.; Single Bots. 11d. lb.; Detached Cryst. 1 lb. @ 1/1 lb.; Crude Black, 45 Gall. Casks @ 10d. gall.; 1 Gall. Tins @ 1/5 each.	Chlorophyll, 7 lbs. @ 5/- lb.; 1 lb. @ 5/9 lb.	Gum Juniper, 14 lbs. @ 9d. lb.
" Citric Cryst., B.P. '85, 1 cwt. @ 1/5 lb.; 7 lb. in Bags @ 1/6 lb.; powder ½d. extra.	Cocaine Hydrochlor. P.B., 25 ozs. @ oz.; 4 ozs. @ 7/10 oz.; 1 oz. @ 8/- oz.	Gum Tragac. Elect., English Ground, 7 lbs. @ 3/6 lb.; 1 lb. @ 3/9 lb.
" Oxalic Cryst., 5 cwt. @ 3½d. lb.; 1 cwt. @ 3½d. lb.; 14 lbs. @ 4d. lb.	Odeina, 1 oz. @ 10/9 oz.; Phosph., 1 oz. @ 9/1 oz.; Hydrochlor. or Sulph. 1 oz. @ 9/11 oz.	*Heading (Frothing Ess.), 5 lbs. @ 1/1 lb.
" Salicyl. pulv., 1 cwt. @ 1/1 lb.; 28 lbs. @ 1/3 lb.; 7 lbs. @ 1/3 lb.; phys. pure, 1 lb. @ 3/- lb.	Oolocynth, Apple, English ground, 1 cwt. @ 10½d. lb.; 28 lbs. @ 11d. lb.; 7 lbs. @ 10½d. lb.	Honey, fine White Set, 28 l's. @ 47/- cwt.
" Tart. cryst. or pulv., B.P. 1885, 1 cwt. @ 10½d. lb.; 7 lbs. @ 11½d. lb.; parv. ½d. lb. extra.	Composition Powder (Coffin's), 1 cwt. @ 58/- cwt.; 7 lbs. @ 7½d. lb.	Hydrokinone, 7 lbs. @ 3/4 lb.; 1 lb. @ 3/7 lb.
Adeps Benz., B.P., 28 lbs. @ 8d. lb.	Creosotum Beechwood, P.B., 22 lbs. @ 1/7 lb.; *7 lbs. @ 1/9 lb.	Lin. Camph. P.B., 40 lbs. @ 11d. lb.; 9 lbs. @ 1½d. lb.
Adeps Lanae B.P., Anhydrous, 2 cwt. @ 52/6 cwt. Hydrous @ 49/- cwt.; 1 cwt. @ 2/- cwt., 25 lbs. @ 5/- cwt., 14 lbs. @ 8/- cwt., 7 lbs. @ 12/- cwt. extra.	Creta c. Camph., 7 lb. @ 8d. lb.	Lin. Sapo Meth., 9 lbs. @ 7d. lb.
Aloin, B.P., 1 lb. @ 3/9 lb.	" Gall. Pulv. in sacks, 10 cwt. @ 6/- cwt.; 1 cwt. @ 7/- cwt.; 14 lbs. @ 1½d. lb.	Lin. Tereb. Acet., B.P., 9 lbs. @ 1/- lb.
Ammon. Benz., 7 lbs. @ 2/8 lb.; 1 lb. @ 3/- lb.	Creta Præparata, 7 lbs. in box, 9d. each.	Linseed c. Oil, Crushed, 3 cwt. @ 16/- cwt.; 1 cwt. @ 16/6 cwt.
Ammon. Brom., P.B., 1 cwt. @ 1/1½ lb.; 7 lbs. @ 1/3 lb.	*Dec. Aloes Co. Conc. 1-2, 6 lbs. @ 2/4 lb. Sine croco, 6 lbs. @ 1/2 lb.	*Liq. Ammonii Acetatis Conc. 1-7, 6 lbs. @ 10½d. lb.; 1 lb. @ 1/0½ lb.
Ammon. Carb. lump, 3 cwt. @ 3½d. lb.; 28 lbs. @ 4½d. lb.; 7 lbs. @ 5d. lb.; powder, 28 lbs. extra.	*Dec. Cinchonæ (Rubra) Conc. 1-7, 6 lbs. @ 1/10	*Liq. Ammon. Aromat., 6 lbs. @ 9d. lb.
Ammon. Chlor., 99% pulv., 1 cwt. @ 33/- cwt.; 7 lbs. @ 4d. lb.; Batteries, 4/- cwt. extra.	*Dec. Senegæ Conc. 6 lbs. @ 2/1 lb.	" Antim. Chlor. Pure, 8 lbs. @ 6½d. lb.
Amyl Pulv., 10 cwt. @ 13/3 cwt.; 2½ cwt. @ 13/9 cwt.; 1 cwt. @ 15/3 cwt.	Dionine, 15 grains @ 1/8; ½ oz. @ 9/-	" Arsenicalis, B.P., 7 lbs. @ 4d. lb.; 1 lb. @ 7d. lb.
Antim. Nig. pulv., 1 cwt. @ 25/6 cwt.; 14 lb. @ 33/- cwt.	Emulsio Ol. Morrhuæ, 10 lbs. @ 6½d. lb.	" Arsenii Hydrochlor., P.B., 7 lbs. @ 4d. lb.; 1 lb. @ 7d. lb.
Apioi, 1 lb. @ 13/9 lb.	Eserine Sulph. in 15 grain tubes, 3/- each.	" Bismuth. P.B., 6 lbs. @ 10½d. lb.
*Aqua Anethi Conc. 1-40, 1 lb. @ 2/11 lb.	Ess. Bergam. (Oil), 12 lbs. @ 14/- lb.; 1 lb. @ 15/6 lb., not guaranteed absolutely pure.	" Copaiba Bucha et Cubeb, 5 lbs. @ 2/6 lb.; 1 lb. @ 2/10 lb.
" Anisi Conc. 1-40; 1 lb. @ 3/1 lb.	Ess. Limonis (oil) original coppers, 12 lbs. @ 3/6 lb.; 6 1-lb. bots. @ 4/- lb., not guaranteed absolutely pure.	" Easton, p.s. 1-3, B.P., 1 lb. @ 3/- lb.
" Cinnamon Conc. 1-40, 1 lb. @ 3/4 lb. [7d. lb.]	*Ess. Pear (artificial), Jargonelle, 5 lbs. @ 1/6 lb.; Bergamot, 2/6 lb.	" Ferri Dialysatus, 6 lbs. @ 7d. lb.
" Aurant. Trip., 53 lbs. @ 17/6; 6 lbs. @ 17/6	*Ess. Pineapple, 5 lbs. @ 3/4 lb.	" Ferri Iod. p.s. 1-7, 1 lb. @ 5/9 lb.
" Aurant. Conc., 1-40, 1 lb. @ 6/1 lb.	" Rasperry, 5 lbs. @ 1/10 lb.; 1 lb. @ 2/2 lb.	" Ferri Perchlor. Fort. P.B., 7 lbs. @ 4d. lb.
" Rose Trip., 53 lbs. @ 17/6; 6 lbs. @ 7d. lb.	" Vanilla Beans, 5 lbs. @ 4/4 lb.; 1 lb. @ 4/7 lb.	" Ferri Phosph. Co. p.s. 1-7, 7 lbs. @ 1/6
" Rose Conc., 1-40, 1 lb. @ 6/- lb.	*Ext. Belladonna Liq. B.P., 5 lbs. @ 4/7 lb.; 1 lb. @ 5/- lb.	" Hypophosph. Co. p.s. B.P.C., 1 lb. @ 3/4 lb.
" Samb. Trip., 53 lbs. @ 23/6; 6 lbs. @ 8d. lb.	Ext. Cascara Sag. Liq., B.P., 10 lbs. @ 1/3 lb.	" Iodi Fort. B.P., 5 lbs. @ 4/9 lb.
" Samb. Conc., 1-40, 1 lb. @ 6/1 lb.	*Ext. Ergot. Liq. P.B., 5 lbs. @ 3/1 lb.; 1 lb. @ 3/4 lb.	Manna, fine flake, 14 lbs. @ 2/8 lb.; 7 lbs. @ 2/10; 1 lb. @ 3/4 lb.
" Laurocerasi, 53 lbs. @ 17/6; 6 lbs. @ 7d. lb.	" Glycyrrh. Liq. B.P., 6 lbs. @ 1/6 lb.	Ol. Amygdal. Ang. B.P., 9 lbs. @ 2/- lb.
" Menth. Pip. Conc. 1-40, 1 lb. @ 3/- lb.	" Hamamelis, Liq. P.B., 5 lbs. @ 3/5 lb.	Ol. Morrhuæ, 1909, finest non-freezing Norwegian, 25-gal. tin-lined barrels @ 69/- per barrel; 2-gal. tins, 7/6 each.
Argent. Nit., 6's to oz., 25 oz. @ 1/8½ oz.; 1 oz. @ 1/10 oz.	*Ext. Ipecac. Liq. P.B., 5 lbs. @ 1/- lb.; 1 lb. @ 11/9 lb.	Shellac (Orange), 1½ cwt. @ 74/- cwt.; 7 lbs. @ 10d. lb.
" Cryst., 25 oz. @ 1/8 oz.; 8 oz. @ 1/7 oz.	*Ext. Nuels Vom. Liq. B.P., 5 lbs. @ 3/3 lb.; 1 lb. @ 3/6 lb.	Soda Caustica, 28-lb. tin @ 8½d. lb.; 6 1-lb. Bots. @ 10d. lb.
Anri Chlor., 6 doz. 15 gr. tubes @ 18/3 doz.; 1 doz. 15 gr. tubes @ 19/6 doz.	" Quassia, Solid, 7 lbs. @ 6/- lb.; 1 lb. @ 6/4 lb.	Sodi Bromid. P.B., 1 cwt. @ 1/0½ lb.; 7 lbs. @ 1/2 lb.
Bals. Copaiba pure, 44 lbs. @ 2, 2 lb.; 9 lbs. @ 2/4 lb.; 1 lb. @ 2/8 lb.	Ext. Sarsæ Co. Solid, 7 lbs. @ 4/- lb.; 1 lb. @ 4/8 lb.	Sodi Hypsulphite pea cryst., 1 cwt. @ 8/6 cwt.
Benz. Naphthol, 7 lbs. @ 2/8 lb.; 1 lb. @ 3/- lb.	Ferri Carb., 1 cwt. @ 21/- cwt.; 28 lbs. @ 3d. lb.	Soda Salicyl. Pulv., 1 cwt. @ 1/5 lb.; 28 lbs. @ 1/6 lb.; 7 lbs. @ 1/7 lb.; phys. pur., 28 lbs. @ 2/2 lb.; 1 lb. @ 2/5 lb.
Bismuth, P.B. Carb., 14 lbs. @ 7/9 lb.; 3 lbs. @ 8/1 lb.; subnit., 1/- lb. less.	Ferri et Quinæ Oit., P.B.; 600 ozs. @ 3d. oz.; 100 ozs. @ 3½d. oz.; 25 ozs. @ 3½d. oz.	Soda Sulphocarbolas B.P., 7 lbs. @ 10½d. lb.; 1 lb. @ 1/1 lb.
Boric Mixture, 1 cwt. @ 38/- cwt.	Flor. Anth. Ext., first pickings 1908, 1 cwt. @ 66/- cwt.; 7 lbs. @ 8d. lb.; 2nd, 1 cwt. @ 48/-	*Spt. Ether Nit. P.B., 4½ lbs. @ 3/6 lb.; 1 lb. @ 3/9 lb.
Borax, 1 cwt. @ 16/9; powder 1/- extra	Fol. Sennæ, Alex. Parv., 1 cwt. @ 4d. lb.; 28 lbs. @ 4½d. lb.	*Sp. Ammon. Aromat. P.B., 5 lbs. @ 2, 8½ lb.
Caffeine Cit. B.P., 1 lb. @ 10/- lb.	" Sennæ Tinney 3½ cwt. @ 2½d. lb.; 1 cwt. @ 3½d. lb.; 7 lbs. @ 3½d. lb.; English Ground, 1 cwt. @ 5½d. lb.; 56 lb. @ 6d. lb.; 7 lbs. @ 7d. lb.	*Syr. Chloroformi P.B., 5 lbs. @ 3/7 lb.
Calamine B.P., 7 lbs. @ 9d. lb.	Formaldehyde, 40%, 132-lb. Carboys @ 50/- each; 7 lbs. @ 7½d. lb.	" Strychnina cryst. B.P., 25 ozs. @ 1/0½ oz.; 1 oz. @ 1/10 oz.; Hydrochlor. and Nitrate, 2d. oz. less.
Calcif. Carb. præcip., 5 cwt. @ 14/6 cwt.; 1 cwt. @ 17/- cwt.; 28 lbs. @ 19/- cwt.	Ginger, English Ground, 1 cwt. @ 52/- cwt.; 7 lbs. @ 6½d. lb.	Sugar of Milk, B.P., 1 cwt. @ 46/- cwt.; 7 lbs. @ 6d. lb.
" Hydras, P.B., 1 cwt. @ 25/- cwt.; 7 lbs. @ 5d. lb.	Gingerine, Extra, 6 lbs. @ 9/6 lb.; 1 lb. @ 10/- lb.	Sulphonal B.P., 1 lb. @ 9/6 lb.
" Hypophosph. Pur. P.B. 1 lb. @ 2/3 lb.	Glycerin. Opt., D.D., 1-260 P.B., 1 cwt. @ 73/- cwt.; 56 lb. @ 74/- cwt.; 12 lbs. @ 9½d. lb.	" Syr. Aurant. P.B., 7 lbs. @ 8d. lb.
Iodid., 1 lb. @ 14/6 lb.	*Glycerin. Acid. Boric P.B., 6 lbs. @ 1/2 lb.	" Syr. Easton B.P., 7 lbs. @ 1/- lb.
Camphor, English Flowers, "not artificial," 5 lbs. @ 1/11 lb.; ½ oz. 7 lbs. @ 2/2 lb.; 1 ½ oz. 7 lbs. @ 2/4 lb. Crude, 140 lbs. @ 1/4½d. lb.; 28 lbs. @ 1/6 lb.	*Glycerin. Acid. Carbolic P.B., 6 lbs. @ 1/2 lb.	" Ferri Iodid. P.B., 7 lbs. @ 1/1 lb.
Cantharidis, Russian, 7 lbs. @ 2/10 lb.; powder, 5d. lb. extra.	" Acid. Tannic, P.B., 6 lbs. @ 1/2 lb.	" Ferri Phosphat. Co., 7 lbs. @ 5d. lb.
Capsicine, soluble, 1 lb. @ 6/6 lb.	" Belladon. B.P.C., 6 lbs. @ 2/6; 1 lb. @ 2/9 lb.	" Hypophosph. Co. B.P.C., 7 lbs. @ 9d. lb.
Carbo Animalis or Ligni, 1 cwt. @ 14/- cwt.; 28 lbs. @ 2d. lb.	" Boracis P.B., 6 lbs. @ 11d. lb.	" Pruni Virg. B.P., 8 lbs. @ 7d. lb.
Carmine, Finest, 1 lb. @ 17/- lb.; No. 2, 1 lb. @ 13/- lb.	Glycerin. Peppine Acid P.B., 1 lb. @ 3s. lb.	" Rhamni, 7 lbs. @ 10d. lb.
Cera Alba, B.P., White Moons, 1 cwt. @ 1/6½ lb.; 28 lbs. @ 1/7½ lb.; 4 lbs. @ 1/8 lb. Flav. 1 lb. Blocks, 28 lbs. @ 1/6½ lb.; 4 lbs. @ 1/7½ lb.; 1 oz. ½ oz. Tabs., 7 lbs. @ 1/7½ lb.	Gran. Parad., 1 cwt. @ 75/- cwt.; 7 lbs. @ 9d. lb.; Powder, 7 lbs. @ 10d. lb.	" Scillæ P.B., 7 lbs. @ 4½d. lb.
Cetaceum: No. 1, fine white, 64 lbs. @ 1/4 lb.; 7 lbs. @ 1/6 lb.; powder, 7 lbs. @ 1/10 lb.	Guaiaacoli Carb., 7 lbs. @ 5/- lb.; 1 lb. @ 5/4 lb.	" Sennas P.B., 7 lbs. @ 8d. lb.
	Guaiaacoli pure, 1 lb. @ 3/6 lb.	" Tolut. P.B., 7 lbs. @ 7d. lb.
	Gum Acaciae sorts, 3 cwt. @ 38/- cwt.; 1 cwt. @ 45/- cwt.; 7 lbs. @ 5½d. lb.; English Ground Powder, No. 1, 1 cwt. @ 95/- cwt.; 7 lbs. @ 1d. lb.; No. 2, 1 cwt. @ 60/- cwt.; 7 lbs. @ 8d. lb.	*Tinct. Aurantii Recens, B.P., 5 lbs. @ 3, 6 lb.
		*Tinct. Belladon., B.P., 5 lbs. @ 2/11 lb.
		*Tinct. Benzoini Comp. P.B., 5 lbs. @ 3/5 lb.
		*Tinct. Camph. Comp., P.B., 5 lbs. @ 2/5 lb.
		*Tinct. Cantharidis, P.B., 5 lbs. @ 7/9 lb.
		*Tinct. Capsici, B.P., 5 lbs. @ 3/3 lb.
		*Tinct. Card. Comp., P.B., 5 lbs. @ 2, 6 lb.
		*Tinct. Catechu, P.B., 5 lbs. @ 2, 8 lb.
		*Tinct. Chlorof. o. Morph. Comp. B.P. 1885, 5 lbs. @ 1/11 lb.
		*Tinct. Cinchon. Comp. B.P., 5 lbs. @ 3, 4 lb.
		*Tinct. Cinchon. Rub. P.B., 5 lbs. @ 3, 1-b.
		*Tinct. Digitalis, B.P., 5 lbs. @ 3/8 lb.
		*Tinct. Gelsem., B.P., 5 lbs. @ 2/10 lb.
		*Tinct. Gentianae Comp. B.P., 5 lbs. @ 1/11½ lb.
		*Tinct. Hyoscyami, B.P., 5 lbs. @ 2/10½ lb.
		*Tinct. Iodi, B.P., 5 lbs. @ 3/11 lb.; decolor, 5 lbs. @ 4/3 lb.

\*Minimum quantity at these prices, Home Trade, 3 Winchester Quarts assorted. Export, 12 Winchester Quarts assorted.

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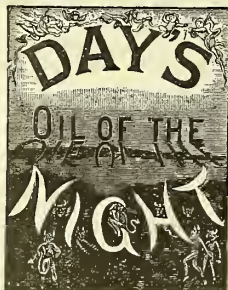
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The great household Remedy for Chest Colds, Sore Throat, Rheumatism, Sciatica, & all aches & pains.

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### SOLUBLE PEARL COATED PILLS.

No.		per lb.	No.		per lb.	No.		per lb.
3	Pil. Aloes et Ferri B.P. ...	2/3	44	Hydrarg. Subchlor. ... gr. i. } Ext. Coloc. Co. ... gr. iij. }	4/-	123	Ol. Pulegii ... gtt. 1/2 } Pil. Aloes et Ferri ... gr. iv. }	1/8
4	Pil. Aloes et Myrrh. B.P. ...	2/3	46	Hydrarg. Subchlor. ... gr. j. } Pil. Coloc. Co. ... gr. iv. }	5/-	127	Ergotin ... } Ferri Sulph. Exsic. ... } Ext. Hellebor. ... } " Aloes Soc. ... aa. gr. i. } Ol. Sabinæ ... gtt. ss. }	6/9
6	Pil. Coloc. et Hyoscyam. B.P. ...	4/3	48	Hydrarg. Subchlor. ... gr. i. } Pil. Rhæi Co. ... gr. iv. }	3/2	128	Ol. Pulegii ... m. 1/4 } Pil. Aloes et Ferri ... gr. iv. } Apiol ... m. 1/2 }	2/9
12	Pil. Rhei Co., B.P. ...	1/6	52	ALOIN. Jalapin ... aa. gr. 1/10 } Podophyllin ... gr. 1/5 } Ext. Hyoscy. ... } " Nuc. Vom. ... } Capsicin ... aa. gr. 1/20 }	1 lb. 8/-	160	Ext. Colchici ... } Ammon. Carb. ... aa. gr. 1/4 } Guaiaci Resinæ ... gr. iv. } Pulv. Opii ... gr. 1/2 }	3/6
15	Pil. Hydrarg. ... gr. i. } " Rhæi Co. ... gr. iij. }	2/2	86	Ol. Ricini ... gr. ss. } Pot. Sulph. ... gr. iss. } Pulv. Rhei ... gr. ii. } Sapo Hyps. ... gr. ss. } Ol. Crotonis ... gr. 1/10 }	1/8	162	Ext. Colchici Acet. ... gr. ss. } Pil. Hydrarg. ... } Pil. Rhæi Co. ... } Ext. Hyoscy. ... aa. gr. i. }	4/6
17	Pil. Hydrarg. ... gr. ij. } " Rhæi Co. ... gr. iij. }	2/4	97	Pulv. Ipecac. Co. ... } Pulv. Gum Ammon aa. gr. iss. } " Scillæ ... gr. i. } " Sapo. Hyps. ... gr. ss. }	3/6	201	Podophyllin ... gr. 1/4 } Pil. Rhæi Co. ... gr. iiss. } Ext. Hyoscy. ... gr. ii. }	4/-
18	Pil. Hydrarg. ... } " Rhæi Co. ... aa. gr. ijss. }	2/4	111	Ext. Taraxaci ... gr. 3/4 } " Aloes Aquos ... gr. iss. }	1/6	205	Podophyllin ... gr. 1/4 } Ext. Coloc. Co. ... gr. ss. } Pulv. Aloes Soc. ... gr. i. } " Scammon. ... gr. 1/4 } Sapo. Hyps. ... } Ext. Hyoscy. ... } Gingerin ... aa. gr. 1/8 }	4/9
19	Pil. Hydrarg. ... gr. i. } " Rhæi Co. ... gr. iij. } Ext. Hyoscy. ... gr. i. }	3/-	113	Ext. Aloes Aq. ... gr. i. } " Gentian ... gr. ii. } " Anthem. ... gr. i. } Pulv. Capsici ... gr. 1/4 }	1/6	208	Podophyllin ... gr. 1/4 } Ext. Nuc. Vom. Alc. ... gr. 1/4 } Pil. Rhæi Co. ... gr. iv. }	4/-
21	Pil. Hydrarg. ... gr. ij. } " Ext. Coloc. Co. ... gr. iij. }	4/8	116	Pulv. Digitalis ... gr. i. } " Scillæ ... gr. ii. } Pil. Hydrarg. ... gr. i. }	3/2	212	Quininæ Sulph. ... gr. i. } 10 gro., 5d. gro. } 50 gro., 4 1/2 d. gro. }	
25	Pil. Hydrarg. ... } " Ext. Coloc. Co. aa. gr. ij. } " " Hyoscy. ... gr. i. }	4/8	118	Ext. Buchu ... } " Uvæ Ursi ... } Pulv. Capsici ... aa. gr. 1/4 } Ol. Juniper ... m. 1/4 } Pulv. Pot. Nit. ... gr. i. } Podophyllin ... gr. 1/8 } Tereb. Venet. ... gr. 1/4 }	4/6	213	Quininæ Sulph. ... gr. ij. } 10 gro., 9d. gro. } 50 gro., 8 1/2 d. gro. }	
36	Ext. Aloes Aquosum ... sc. j. } Pulv. Cambog. ... gr. iv. } " Jalapæ ... gr. viij. } " Colocynth ... gr. vi. } " Hyd. Subchlor. ... gr. iv. } " Sapo Hyspan. ... gr. iv. } Gingerin ... gr. ij. } Ft. Pil. xij. }	1/8						
Each Pil. contains Calomel, gr. 1/8.								
40	Pil. Aperiens Hospital ... } Ext. Aloes Aquosum ... gr. ij. } Pulv. Gambogiæ ... gr. ss. } " Jalapæ ... gr. i. } " Colocynth ... } Hyd. Subchlor. ... } Pulv. Saponis ... aa. gr. ss. } Ol. Menth. Pip. ... gr. 1/8 } " Caryoph. ... gr. 1/8 } Ft. Pil. i. }	1/8						

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**589 Combination**, for mouth and nose

880 Nelson's, plain white

880 Nelson's, plain wh  
881 " marbled



589.

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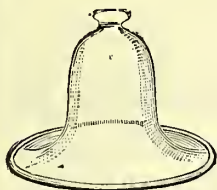
880

per gross loose, **24/-**; each in card box, **30/-**  
per doz. small, **7/-**; medium, **10/6**; large, **17/-**  
„ large size, **26/-**

„ large size, **26/-**

large size, **26/-**

# Nipple Shields.



170.

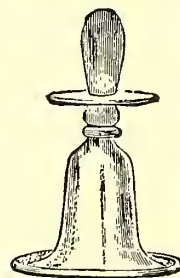


588.



590.

# Nasal Douches.



165.

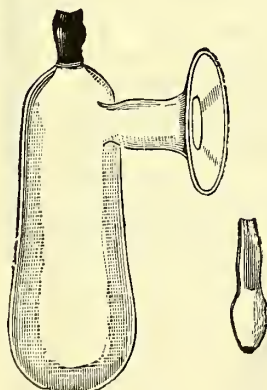
<b>588</b>	<b>Nasal Douches,</b> glass, "Birmingham" ... .. per gross loose, <b>22/-;</b> each in card box, <b>28/-</b>
<b>590</b>	" " "Canada" ... .. " " <b>18/9</b> " " <b>24/9</b>
<b>170</b>	<b>Nipple Shields,</b> glass, straight ... .. " " <b>5/8</b>
<b>165</b>	" " glass, fitted with I.R. black teat, and bone shield, each in box ... .. per doz.
<b>901</b>	" " " " tube, teat and bone shield, each in box... .. <b>3/4</b>

170 Nipple shields  
165 " "

165	"	"
901	"	"

901                   "                   "

## Breast Glasses and Pumps.



789.

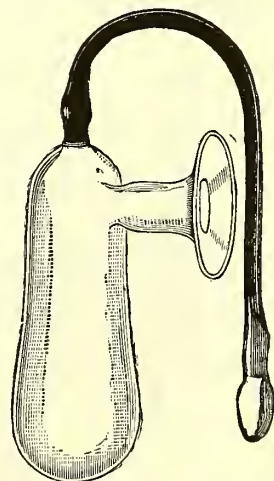
	189.	200.
<b>789 Breast Glasses,</b> with mouthpieces, but without rubber tubing ...		

785	Breast glasses, with mouthpieces, but without rubber tubing	...	...	...	...
790	" " fitted with black rubber tubing and glass mouthpiece in cardboard box	...	...	...	...

**559 Breast Pumps**, complete with indiarubber ball in cardboard box



559.



790

1/10

3/8

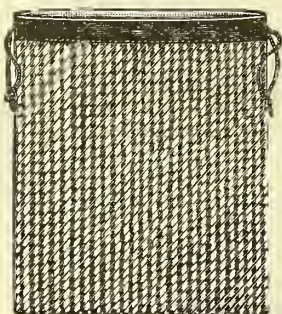
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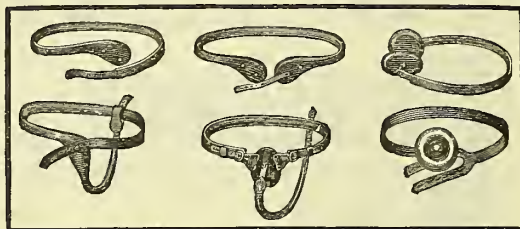
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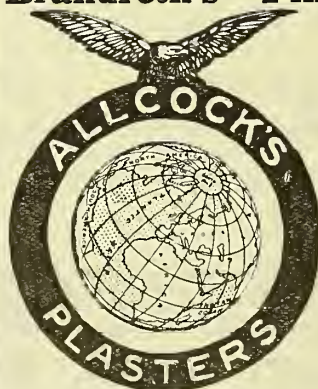
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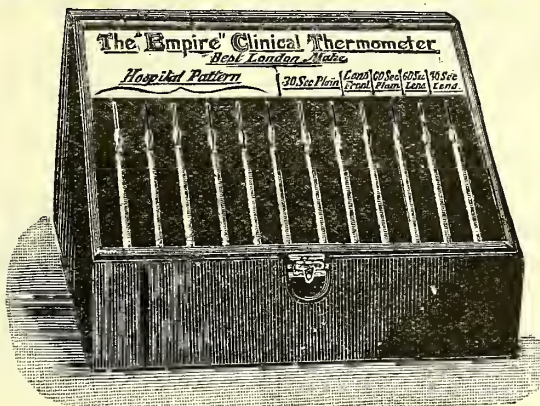


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For Cold in the  
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word "VICHY-ÉTAT" and the name of the SOLE AGENTS:—**INGRAM & ROYLE, LTD., 26 UPPER THAMES STREET, E.C.**And at LIVERPOOL and  
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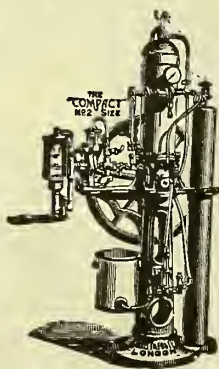
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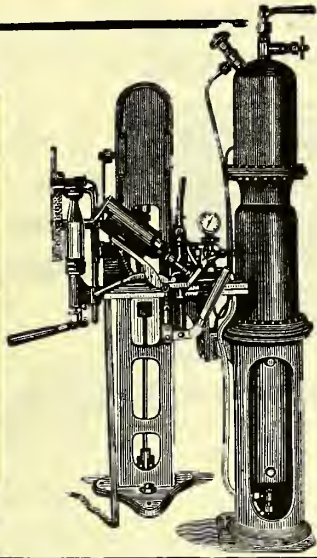
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## THE "COMPACT" MACHINES

are specially designed for  
**CHEMISTS, GROCERS, RESTAURATEURS,**  
and everyone to whom space is an object,  
and can be used for filling Syphons, Codd's  
Bottles, or Cork Bottles.**OCCUPY LITTLE SPACE!  
ARE READY FOR USE IMMEDIATELY!  
REQUIRE NO FIXING!**Produce Soda Water, Lemonade, &c., of the  
highest class and greatest purity.**Write for Catalogue.****BARNETT & FOSTER, Niagara Works, 26<sup>T</sup> Eagle Wharf Road, N.***Proprietors of Galloway, Bros., Bolton.***A COMPLETE APPARATUS—  
CAPABLE OF PRODUCING OVER  
300 DOZEN LARGE BOTTLES  
OF AERATED WATER PER DAY  
—from £20.**Bottles, Boxes, Essences, and all  
Requisites for the Trade at  
Lowest Prices.





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to ensure PURITY, should be manufactured by Chemists.

The best Machine for this purpose is the "**ALPINE**," the most perfect AUTOMATIC SATURATOR on the Market.

Every bottle or syphon before filling has three Aerations, giving splendid results.

Simple and easy to manage by one attendant. No pumping required, water being attached from main or cistern.

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Established  
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Excise Drawback on  
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# CONCENTRATED WATERS.

STANDARDISED TO B.P. 1898.

When diluted in the proportion of one part to forty parts of water at 60° temperature, they faithfully represent the Medicated Waters of the British Pharmacopœia. They are always of uniform strength, and will keep good any length of time in any climate.

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The above may be had in ½-lb., ¼-lb., or 1-lb. Bottles and upwards, through most of the Wholesale Drug Houses.

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By Royal Warrant to  
H.M. The King.



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Only  
**ONE**  
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**DAY & SONS,** ESTABLISHED 1840.  
**CREWE. LTD. (CREWE)**  
HORSE, CATTLE, SHEEP & DOG MEDICINES.

Only  
**ONE**  
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**LARGEST SALE IN THE WORLD.**



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Cures Colic or Gripes in Horses or Cattle, Scour and Weakness in all Young Stock, Blown Cattle and Sheep, Debility, Chills, and Low Condition in all Stock.

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Great Specialities.

ONLY GENUINE FROM

**DAY & SONS, CREWE, LTD.,**  
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LIBERAL TERMS FOR FOREIGN BUYERS.



# ASHTON & PARSONS'

## "Universe"

### Show Case.

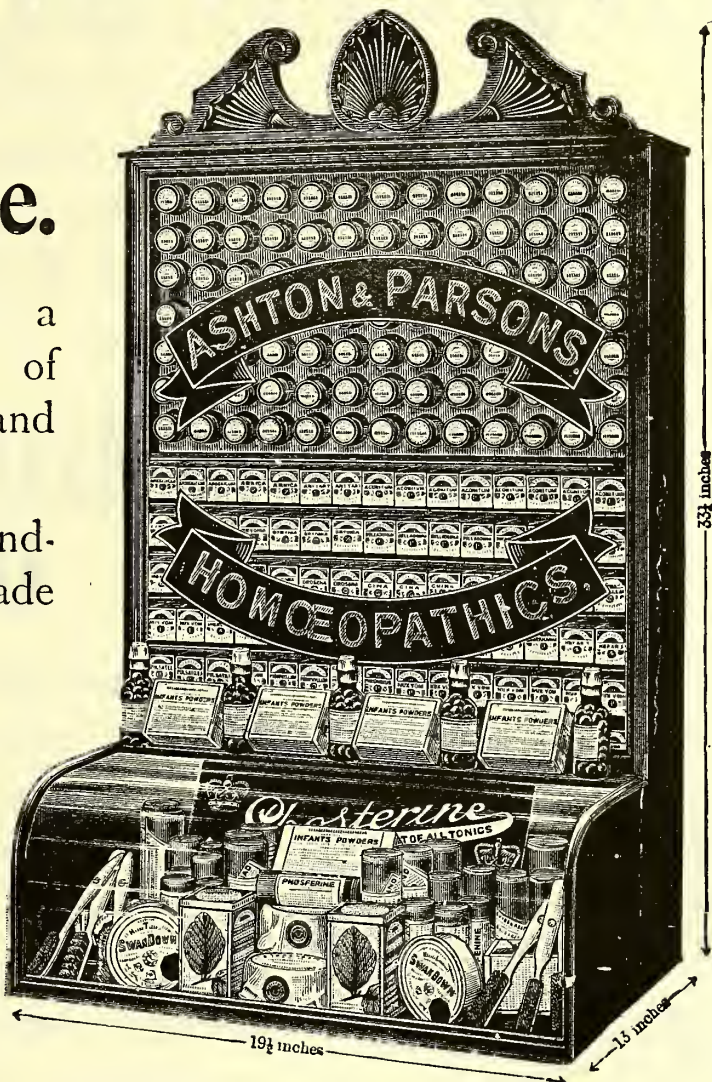
**FILLED** with a quick-selling assortment of large 1/- size Pilules and Tinctures.

Price, including the handsome, beautifully - made mahogany Show Case

## £2, 14, 4.

Compare this with the price charged by other makers, whose price is never less than £5.

We charge the actual cost price of the Show Case, plus the contents, at 1/6 per dozen, as follows :—



	£	s.	d.
Cost of Show Case ...	1	12	0
8 1/2 dozen large 1/- size Pilules at 1/6 per dozen...	0	13	0
6 1/2 " " " " Tinctures at 1/6 per dozen ...	0	9	4
	<u>2</u>	<u>14</u>	<u>4</u>

You are not burdened with a lot of high-priced unsaleable Homœopathic Specialities. The Case can be supplied empty if required at the actual cost price of **£1 : 12.**

When not stated the Case is invariably supplied to open at back. The cost of the Case to open at front would be 7s. extra. All spaces are labelled to enable stock to be kept easily.

Write for Illustrated List post free to all parts of the world.

Old Homœopathic Cases of other makers exchanged free of charge for new ones.

**ASHTON & PARSONS, LTD.,** La Belle Sauvage, **LONDON, E.C.**  
Ludgate Hill,



Their Majesties  
 the German Emperor  
 the King of Spain  
 the King of Greece ;

His Excellency  
 the Governor General  
 of Australia

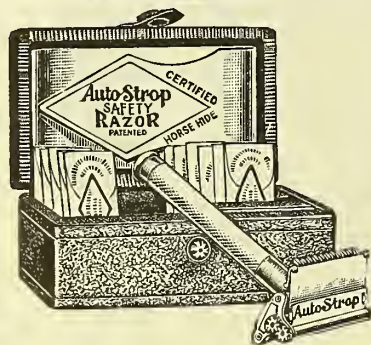
use the

# AutoStrop

## SAFETY RAZOR

The number used by the Nobility is more than double that of any other safety razor. The self-contained stropping arrangement and the simplicity of the AutoStrop Safety Razor ensure quick, convenient, luxurious shaving with all possible economy.

Any chemist who sells high quality goods has among his customers many men who will buy the AutoStrop Safety Razor if it is demonstrated and explained to them.



### PRICES.

RETAIL ...	...	21/- net.
WHOLESALE		
3 doz. lots	...	14/- each.
smaller quantities		14/9 „

*Almost all the large Wholesalers now stock the AutoStrop.*

## AutoStrop Safety Razor Co., Ltd.

61 NEW OXFORD STREET, LONDON, W.

—Also at New York, Montreal, Dublin and Paris.—



# A NEW BED PAN.

Patent No. 23482/06.

(INVENTED BY TWO NURSES.)

The Cleanliest Bed Pan  
ever introduced.

Light, Easy to Handle, and  
Comfortable to the Patient.

*Made in Earthenware and Enamelled Iron.*

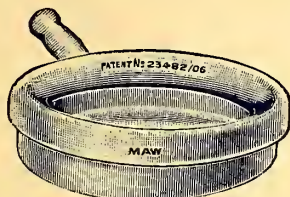


Fig. 1.

**Fig. 1.**—The Bed Pan complete as for use. The illustration shows the transverse wedge shape of the pan—this greatly facilitates the work of placing under the patient and adds to comfort of user by relieving pressure on spine. Note position of handle at side of patient, not in front, as in the case of the old-fashioned slipper.

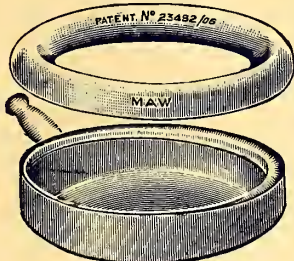


Fig. 2.

**Fig. 2.**—Demonstrating the detachable "Comfort Ring." Note the deep flange on shallow side of pan—this prevents any spilling of contents in withdrawing pan. The deeper side is entirely without flange, to facilitate the operation of emptying and cleaning. (See Fig. 3.)

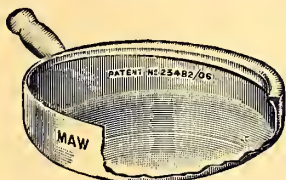


Fig. 3.

**Fig. 3.**—Shows in section the graduated inner flange as explained above. The entire contents are poured instantly and at one operation into any receptacle. The pan is as instantly and easily flushed. This is best done by holding in an ordinary W.C. pan and allowing the flush of water to circle round the pan. The use of a mop is entirely unnecessary.

The rapidity and ease with which the above operations are carried out reduce to an absolute minimum a task at once unpleasant and harmful to health, and must mitigate—possibly entirely obviate—such distressing consequences as Nurses' Sore Throat, &c., &c.

Earthenware 3/3 each



Enamelled Iron 4/6 each.

This Trade Mark and Patent No. 23482/06 on every Pan.

*Makers and Sole Concessionaires:*

## S. MAW, SON & SONS,

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Telegrams: "ELEVEN LONDON."

Telephone: LONDON WALL 3230 (4 lines).



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**GERMAN or AMERICAN**  
Competition.

Our Season's Specialities include:

 **Lactic Tablets** (IMITATED but not equalled.) **18/-** dozen boxes.

 **Health Milk Machine** - **24/-** dozen.

This Machine works excellently, and thus the desire by the public for a cheap machine at a popular price (3s.) is met.

 **Tamarind Pellets** (an excellent seller) **4/6** dozen boxes.

 **Brimstone & Treacle Tabs.** (slightly effervescent basis.) **2/9** dozen boxes of 50.



**ARTHUR H. COX & CO., LTD.**

Pill and Tablet Manufacturers, BRIGHTON.

Telegraphic Address: "COX BRIGHTON."

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## CADBURY'S COCOA

A DELICIOUS BEVERAGE AND AN INVALUABLE FOOD.



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# DICHROIC INK

THE BEST BLACK INK KNOWN.

When this Ink is Used Writing becomes a Pleasure.  
MAY BE HAD FROM ALL CHEMISTS AND DRUGGISTS.

IN JARS,

6d., 1/-, and 2/- each

**BEWLEY & DRAPER, LTD.**

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